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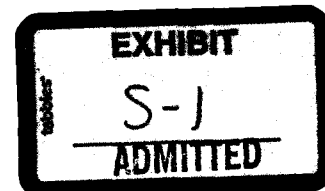
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Exhibit #: Part 5 of 5

S1-S4, S6-S13



STATE OF NEW YORK  
PUBLIC SERVICE COMMISSION

IN THE MATTER OF A PROCEEDING ON MOTION  
OF THE COMMISSION AS TO THE RATES, CHARGES,  
RULES AND REGULATIONS OF

**UNITED WATER OWEGO-NICHOLS INC.**  
FOR WATER SERVICE

P.S.C. Case No. 11-W-0082

REBUTTAL TESTIMONY

OF

PAULINE M. AHERN, CRRA  
PRINCIPAL  
AUS CONSULTANTS

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1    **I.    INTRODUCTION**

2    **Q.    PLEASE STATE YOUR NAME, OCCUPATION AND BUSINESS ADDRESS.**

3    A.    My name is Pauline M. Ahern and I am a Principal of AUS Consultants. My  
4        business address is 155 Gaither Drive, Suite A, Mount Laurel, New Jersey  
5        08054.

6    **Q.    ARE YOU THE SAME PAULINE M. AHERN WHO PREVIOUSLY SUBMITTED**  
7        **PREPARED DIRECT TESTIMONY IN THIS PROCEEDING?**

8    A.    Yes, I am.

9    **Q.    HAVE YOU PREPARED AN EXHIBIT WHICH SUPPORTS YOUR REBUTTAL**  
10       **TESTIMONY?**

11   A.    Yes, I have. It has been marked for identification as Exhibit No. \_\_\_\_ and consists  
12       of Schedules PMA-12 through PMA-30.

13   **II.   PURPOSE**

14   **Q.    WHAT IS THE PURPOSE OF THIS TESTIMONY?**

15   A.    The purpose of this testimony is to rebut certain aspects of the prepared direct  
16       testimony of Kristine A. Prylo, witness for the New York Public Service  
17       Commission (NYPSC) concerning capital structure, common equity cost rate and  
18       overall rate of return. Specifically, I will address: NYPSC Witness Prylo's  
19       recommended capital structure ratios based upon the December 31, 2010  
20       consolidated capitalization of Suez Environnement (SuezE), an indirect parent  
21       company of United Water Owego-Nichols, Inc. (UWON); her application of the  
22       Discounted Cash Flow Model (DCF) and Capital Asset Pricing Model (CAPM);  
23       the inadequacy of her resulting recommended common equity cost rate relative



1 to current and recently authorized return rates on common equity (ROEs) by  
2 various regulatory commissions; and the fact that Ms. Prylo's recommendation  
3 does not reflect the additional risk experienced by UWON due to its small size  
4 relative to the electric and water companies in her proxy group. I will also  
5 respond to Ms. Prylo's comments on my prepared direct testimony.

6 **III. CAPITAL STRUCTURE**

7 **SuezE and United Water Owego-Nichols, Inc.**

8 **Q Please describe SuezE.**

9 A. SuezE is a world-wide environmental services company dedicated exclusively to  
10 water, wastewater and solid waste services, including:

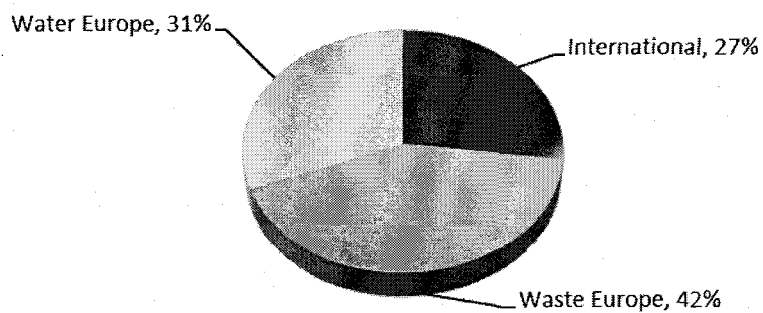
- 11 • Waste collection and urban sanitation;
- 12 • Material recovery and recycling of non-hazardous waste products;
- 13 • Hazardous waste treatment and recovery;
- 14 • Medical waste collection and disposal;
- 15 • Remediation and conversion of polluted industrial sites;
- 16 • Industrial waste services;
- 17 • Design, construction and operation of water and wastewater treatment plants  
18 and systems;
- 19 • Processed water and industrial water treatment; and
- 20 • Desalination.

21 **Q. What are some key operational and financial statistics for SuezE.**

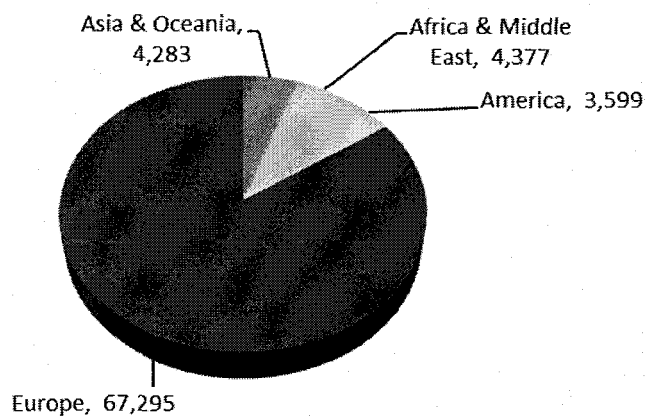
22 A. SuezE had revenue (turnover) of nearly €14 billion in 2010, or approximately \$19  
23 billion, with budgets for Research and Development activities of approximately

1 €73 million, or over \$89 million. Net annual investments were approximately €1.3  
2 billion, or about \$1.7 billion, and total assets of nearly €26 billion, or \$50 billion.  
3 SuezE operates in 36 countries with 79,554 employees. The charts below detail  
4 revenues, employees, and operations by activity and geographical area:  
5

### Revenues by Activity



### Employees by Geographic Area



9  
10 Q. What are key operating statistics for the water and waste segments of  
11 SuezE.

1 A. Key operating statistics for SuezE for water services include:

- 2 • 91 million people supplied with drinking water;
- 3 • 61 million people benefit from wastewater treatment services;
- 4 • 3.8 billion m<sup>3</sup> of drinking water produced;
- 5 • 3.0 billion m<sup>3</sup> of wastewater treated; and
- 6 • 1,200 drinking water production units.

7 For waste services:

- 8 • 1,800 wastewater treatment sites;
- 9 • 50 million people benefit from waste management services;
- 10 • More than 430,000 industrial and commercial clients;
- 11 • 40.0 million tons of waste treated;
- 12 • 601 sorting and transfer stations;
- 13 • 138 open landfills;
- 14 • 118 composting platforms;
- 15 • 126 hazardous waste platforms, and
- 16 • 48 non-hazardous waste incineration sites.

17 **Q. Please describe UWON.**

18 A. As stated in my prepared direct testimony at page 16, lines 4 through 8, UWON  
19 is a wholly owned subsidiary of United Waterworks Inc. (United Waterworks or  
20 UWW), which in turn is wholly owned by United Water Resources Inc. (UWR).  
21 UWON operates in six communities in the Twin Rivers region of upstate New  
22 York, and serves approximately 1700 customers. Approximately 84% percent of  
23 its customers are residential, 11% percent are commercial, less than 1%

1 industrial. Although the number of industrial customers, 11, is less than 1% of  
2 total customers, UWON derives more than 38% of its total water sales revenues  
3 from these customers and sells them more than 65% of total water sold. As  
4 indicated in my prepared direct testimony, at lines 4 through 7 on page 17,  
5 UWON's relative risk is increased because the loss of these few large customers  
6 would have a greater effect on UWON than on SuezE, Ms. Prylo's proxy group or  
7 my proxy group, because they are all much larger than UWON.

8 **Q. What are some key operational and financial statistics for UWON.**

9 A. UWON had revenues of \$1.538 million in 2010 and total assets of \$6.882 million.

10 As noted above, UWON operates in six communities in New York with 5  
11 employees. Unlike SuezE, UWON does not have a waste segment.

12 Key operating statistics for UWON for water services include:

- 13 • 1,700 customers supplied with drinking water;
- 14 • 467,920,000 gallons of drinking water produced annually;
- 15 • Capacity to produce over 2.5 million gallons of drinking water daily;
- 16 • 5 sources of supply, all wells;
- 17 • 130 fire hydrants;
- 18 • 3 wholesale connections;
- 19 • 2 booster stations;
- 20 • 2 above-ground water storage facilities; and
- 21 • 2 in-ground water reservoirs.

22 It is clear that UWON has a completely different operational, regulatory,  
23 geographic and financial profile than SuezE, with correspondingly marked

1 differences in business, political, and financial risks. The capital structure of  
2 SuezE is based upon SuezE's business profile and financial risks, which are  
3 quite different from those of UWON as noted by Ms. Prylo in her prepared direct  
4 testimony on page 18, lines 16 through 23. Conversely, the capital structure of  
5 UWON should reflect its business profile and financial risks. As will be discussed  
6 subsequently, the cost of capital for ratemaking purposes for a regulated utility  
7 should be set based on the risk of investment in that utility, not its ultimate  
8 parent, especially when such clear and significant risk differentials exist between  
9 the parent and the regulated subsidiary, and when there is no clear link between  
10 the regulated utility's rate base and the parent company's own financing.

11 As will be discussed subsequently, it is the use of funds, not the  
12 source, that indicates the risk of investment, and the holder of UWON's  
13 common equity is entitled to the opportunity to earn a rate of return  
14 commensurate with that being earned on similar investments of  
15 corresponding risk. Therefore, it is not appropriate to employ the capital  
16 structure of SuezE for ratemaking purposes.

17 **Ms. Prylo's Recommended Capital Structure Ratios**

18 **Q. DO YOU AGREE WITH STAFF'S RECOMMENDATION TO USE A DIFFERENT**  
19 **CAPITAL STRUCTURE THAN THE COMPANY HAS PROPOSED?**

20 **A.** No. I disagree for several reasons. First, it is inconsistent with accepted  
21 ratemaking practice for not only the Commission's precedent for UWW's New  
22 York subsidiaries but for all of United Water Resources' regulated subsidiaries.  
23 Second, contrary to Ms. Prylo's assertion, at lines 19 through 22 on page 12 of

1 her prepared direct testimony, SuezE is not the source of UWON's common  
2 equity. Third, Ms. Prylo's recommended SuezE capital structure is inconsistent  
3 while UWON's proposed capital structure is consistent with both utility company  
4 (electric and water) average capital structure ratios and Standard & Poor's  
5 (S&P's) financial risk indicative ratios. Fourth, I will discuss the inconsistency of  
6 Ms. Prylo's treatment of SuezE's hybrid securities with her testimony relative to  
7 Moody's treatment of these hybrids at lines 2 through 5 on page 23 of her  
8 prepared direct testimony and in Exhibit \_\_\_\_ (KAP-2), I will also address the  
9 concept of double leverage.

10 **Q. WHAT IS NYPSC PRECEDENT RELATIVE TO UWON'S CAPITAL**  
11 **STRUCTURE?**

12 A. The United Waterworks' or UWW consolidated capital structure has consistently  
13 been used by this Commission to set UWON's rates, and no other agency  
14 regulating the rates of UWW subsidiaries has used SuezE's or any other parent  
15 capital structure or cost rates in setting rate for those subsidiaries. The capital  
16 structures of UWW's regulated utilities, including UWON, have conformed to the  
17 market based capital structures of the water industry, and have been stable over  
18 the years. This is the case both before and after the acquisition of United Water  
19 Resources, Inc. (UWR), the parent of UWW, by Suez, and before and after the  
20 GDF/Suez merger and the SuezE spinoff. SuezE has been the parent of UWR  
21 since 2000, when its parent, Suez, acquired all of UWR shares. In all UWW rate  
22 cases subsequent to that acquisition, there was no attempt by this or any other  
23 Commission to use the capital structure of Suez or SuezE for ratemaking

1 purposes until introduced by this Commission Staff in the 2010 rate cases for  
2 UWW's New York subsidiaries.

3 In Docket No. 98-68 re: United Water Delaware, Inc. (UWDE), UWDE  
4 appealed a decision of the Superior Court which affirmed the Delaware Public  
5 Service Commission's (PSC DE) order that the authorized the use of the capital  
6 structure of UWR, UWDE's corporate "grandparent" to the Supreme Court of the  
7 State of Delaware. In fact, the Supreme Court of the State of Delaware, in Case  
8 No. 176, 1998 (Exhibit PMA-12), overturned the Superior Court's decision which:

9 "affirmed a ruling of the Public Service Commission of the State of  
10 Delaware (the "Commission") that denied, in part, an increase in  
11 rate sought by United Water. The sole claim of error relates to the  
12 Commission's determination of the capital structure of United  
13 Water. The Superior Court ruled that the Commission, in  
14 establishing a rate of return for United Water, correctly imputed to  
15 United Water the capital structure of its corporate "grandparent"  
16 rather than its corporate parent. We conclude, however, the  
17 Commission's imputation of capital analysis is speculative and  
18 unsupported by substantial evidence. Accordingly, we reverse."  
19  
20

21 The Supreme Court further stated:

22 Since United Water, a wholly owned subsidiary, has no capital  
23 structure of its own, it concedes that the Commission may select, or  
24 impute to it, the capital structure of its owner. The nub of this  
25 dispute is whether that owner should be its corporate parent or its  
26 corporate grandparent.  
27

28 The Court noted that United Water argued that UWW's capital structure  
29 should be used because "i) Waterworks furnishes "the capital components  
30 actually employed to finance United Water's plant: and ii) Waterworks has a  
31 capital structure typical of publicly traded water companies." UWDE presented  
32 evidence before the PSC DE that no capital had been or was expected to be

1 contributed to UWDE by UWR. The Court noted that the PSC DE "offered no  
2 direct evidence to the contrary but argues that since only Resources stock is  
3 publicly traded the sole source for purchasing an equity interest in United Water  
4 is through the purchase of the stock of its grandparent, Resources." In response,  
5 the Supreme Court stated:

6 Both the Commission and the Superior Court justified the selection  
7 of the grandparent's, Resources, capital structure on the  
8 assumption that United Water's future financial needs will be met  
9 by Resources. But the record is devoid of evidence that this will  
10 occur and the mere change in corporate ownership through the  
11 1994 realignment cannot, in itself, provide a basis for such an  
12 imputation.  
13

14 The Supreme Court concluded when it states it "REMANDED with  
15 direction that the Superior Court FURTHER REMAND this matter to the  
16 Commission for further proceedings consistent with this opinion." The final  
17 outcome was a stipulation agreed to by all parties that the rates allowed under  
18 bond placed into effect by Order No. 4327 on October 15, 1996 be made  
19 permanent.<sup>1</sup> In all of United Water Delaware, Inc.'s subsequent rate cases, the  
20 Commission has consistently authorized that the UWW capital structure be used  
21 for setting rates.

22 It is clear that there are significant similarities between the rationale for the  
23 PSC DE's decision to set rates based upon UWR and Ms. Prylo's rationale for  
24 recommending SuezE's capital structure ratios for UWON. It is also clear that  
25 the Supreme Court of the State of Delaware's rationale for rejecting UWR's  
26 capital structure ratios for UWDE is applicable to this proceeding as well.

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<sup>1</sup> Public Service Commission of the State of Delaware, PSC Docket No. 96-164 Order No. 5144  
in re: United Water Delaware.



1 Q. DOES MS. PRYLO PROVIDE A FACTUAL BASIS FOR SUCH A MAJOR  
2 CHANGE IN REGULATORY TREATMENT?

3 A. No. Ms. Prylo cites no substantive reason for this major change in regulation  
4 other than a general and erroneous assumption that SuezE has become the sole  
5 supplier of all capital for UWON. UWON's cost of service should not change  
6 simply because of a change in ultimate corporate structure, without some clear  
7 and compelling evidence showing that such a significant regulatory change is  
8 justified.

9 Q. ON PAGE 13, LINE 1 THROUGH PAGE 14, LINE 6, MS. PRYLO DISCUSSES  
10 THE HOLDING COMPANY STRUCTURE OF SUEZE. PLEASE COMMENT.

11 A. Ms. Prylo does not understand the corporate structure of SuezE and UWON, nor  
12 does she understand the nature of the equity contributions from SuezE to UWI as  
13 she notes on page 13, lines 20 through 22 that "UWON stated that it raises  
14 capital through infusions from the parent, United Waterworks, Inc." She then  
15 cites a 2008 \$150 million contribution from SuezE to United Water Inc. which was  
16 then provided to United Water Resources. She further states on page 14, lines 1  
17 through 3, that "there is not any evidence that United waterworks, Inc.'s capital  
18 structure and financial standing are isolated from SuezE." In making such a  
19 statement, she has ignored the Standard & Poor's (S&P) comments on the \$150  
20 million contribution. S&P states:

21 We treat these equity infusions like equity issuances by a public  
22 company and do not link the rating to Suez Environnement.<sup>2</sup>  
23

---

<sup>2</sup> Exhibit\_\_\_(KAP-8), page 3.

1           Moreover, as noted previously, none of the \$150 million contribution is  
2           financing UWON's New York jurisdictional rate base. Clearly, UWW's capital  
3           structure and financial standing are isolated from SuezE.

4   **Q.   WHAT IS THE HISTORY OF CAPITAL INFUSIONS FROM SuezE TO UNITED**  
5   **WATER INC. (UWI)?**

6   A.   As background, SuezE's North American operations are held by Suez  
7        Environnement North America (SENA). One of SENA's subsidiaries is United  
8        Water Inc. (UWI), which holds regulated, contract service and real estate  
9        operations in UWR, and holds the unregulated or contract services operations in  
10       United Water Services Inc. (UWS; recently renamed United Water Environmental  
11       Services). In addition to its regulated operations, UWR also holds some contract  
12       service operations where they are in proximity to regulated operations, and  
13       United Properties Group, which holds land and land rights. GDF Suez owns 35%  
14       of SuezE, and the rest of its shares are publicly traded.

15           Ms. Prylo states on page 12, at lines 19 through 22 of her prepared direct  
16        testimony: "UWON does not issue its own common equity; it receives equity  
17        contributions from its ultimate parent, SuezE, the publicly issuing entity." She  
18        provides no proof to support this conclusion and the facts contradict her  
19        assumption that it is SuezE's capital which supports UWON's entire rate base.  
20        SuezE equity infusions are shown on Exhibit PMA-13, which is derived directly  
21        from the audited financial statements of the companies. The analysis compares  
22        the common equity (paid in capital) sections of the balance sheets on a quarterly

1 basis from 2004 to 2010<sup>3</sup> to determine the amounts of equity infused by the  
2 parent corporations. As shown in Exhibit PMA-13, from 2004 through 2010,  
3 SuezE has infused about \$355 million into SENA, which kept \$35M and infused  
4 \$320M into UWI. Of this \$320M, UWI kept \$245M, sending \$75M to UWS.  
5 Thus, all of the \$355 capital infusion was made into SENA, UWI, and UWS. None  
6 of this capital was contributed into UWR or UWW. In March of 2010, UWI  
7 recapitalized \$100M of borrowings from UWR into equity.

8 In fact, UWON's rate base is supported by its own internally generated  
9 funds and capital infusions from its parent, UWW. The funding stream shown on  
10 Schedule PMA-13, shows that there is no direct financial link between the rate  
11 base of UWON and SuezE.

12 **Q. HOW ARE CAPITAL INFUSIONS INTO UWON AUTHORIZED?**

13 A. The Company informs me that UWR's Board of Directors (which includes 3  
14 independent Board members out of 8) authorize and approve capital infusions  
15 into UWW. The infusions are made periodically to insure that UWW retains a  
16 capital structure consistent with its peer group of water utilities. Decisions and  
17 authorizations of equity infusions to UWW's subsidiaries are made at the UWW  
18 level. Therefore, they are independent of any funds from SuezE.

19 **Q. NEVERTHELESS, DOES THE DOUBLE LEVERAGE CONCEPT DESCRIBED**  
20 **BY STAFF APPLY TO UWON?**

21 A. No. Based upon all of the foregoing, it is clear that SuezE has not supplied any  
22 of UWON's common equity. Therefore, no double leveraging exists.

---

<sup>3</sup> There have been no equity infusions since March 2010.

1   **Q.   WHY IS THE CONCEPT OF DOUBLE LEVERAGE INAPPLICABLE IN**  
2   **GENERAL?**

3   A.   The double leverage concept assumes that all of the capital employed by the  
4       parent holding company is proportionately invested in all of its subsidiaries. Such  
5       an assumption is at odds with reality and clearly at odds with the facts described  
6       above relative to SuezE capital infusions to UWI. In addition, the Order  
7       Authorizing Reorganization and Associated Transactions (Order) of June 25,  
8       2008, authorizing the merger of Gaz de France (GDF) and SuezSA, makes it  
9       clear that SuezE's capital cannot finance UWON's rate base. Moreover, as a  
10      practical matter, the double leverage concept is inappropriate because 1) it is  
11      discriminatory; and, 2) its application disregards the fundamental concept of rate  
12      base/rate of return regulation.

13   **Q.   WHY IS DOUBLE LEVERAGE DISCRIMINATORY?**

14   A.   It is *discriminatory* because it singles out a sole corporate shareholder. Double  
15      leverage can only be claimed to exist in a situation where there is but one  
16      corporate shareholder. However, in the case of UWI, UWR, UWW and UWON,  
17      SuezE is not the sole shareholder because GDF retains 35% controlling  
18      ownership of SuezE.

19   **Q.   PLEASE EXPLAIN GDF'S ACTION TO RETAIN A CONTROLLING**  
20   **OWNERSHIP INTEREST IN SUEZE.**

21   A.   In the Order authorizing the merger of GDF and SuezE, the Commission noted  
22      that GDF Suez "wanted to retain some ownership interest in the water and  
23      wastewater business. As a result, it decided not to fully spin off the environment

1 business but instead to maintain control of SE through its 35% interest and the  
2 Shareholders Agreement it has entered into with certain other major  
3 shareholders of SE who will hold 12% of its shares after the proposed  
4 transaction.”<sup>4</sup>

5 The controlling interest in SuezE by GDF continues. As recently as May  
6 9, 2011, Moody’s noted that:

7 As part of the merger of Suez with GDF (to create the GDF SUEZ  
8 Group, rated A1) 65% of SE was spun off to Suez shareholders  
9 and simultaneously listed on the Euronext Paris and Brussels stock  
10 exchanges through an IPO in July 2008. The company remains  
11 controlled through a shareholder agreement (until July 2013) by  
12 GDF SUEZ which itself retains 35.4% of the capital.<sup>5</sup>  
13

14 **Q. WERE THERE ANY OTHER ASPECTS OF THE GDF AND SUEZE MERGER**  
15 **THAT WOULD PREVENT SUEZE FROM ENGAGING IN DOUBLE**  
16 **LEVERAGING?**

17 A. Yes. In the aforementioned Order, the Commission stated: “Staff confirmed that  
18 no asset of UWR’s regulated subsidiaries will be pledged or used as collateral by  
19 SE North America, the proposed GDF Suez or any other affiliation in connection  
20 with the merger”<sup>6</sup>, providing further evidence that SuezE’s capital is not available  
21 for investment in UWON’s jurisdictional rate base.

22 **Q. DID THE COMMISSION TAKE ANY ACTIONS THAT WOULD FINANCIALLY**  
23 **INSULATE UWON FROM SUEZE?**

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<sup>4</sup> Order, 4.

<sup>5</sup> Exhibit\_\_\_(KAP-7), page 1.

<sup>6</sup> Order, 5.

1 A. Yes. As further protection from any possible financial distress of SuezE, the  
2 Commission reserved the "right to impose any restriction upon UW and its New  
3 York affiliates that we deem necessary to return the companies to investment  
4 grade should the credit ratings of SE or UW fall below investment grade."<sup>7</sup>  
5 Although the Order addressed such a downgrade within six months of the closing  
6 of the merger, it is my opinion that, should such a downgrade occur, even now,  
7 the Commission would make every effort to assist the companies to return to  
8 investment grade. As the Order states: "[t]his may include adjustments to the  
9 cost of capital in future rate proceedings and future AFUDC rate in order to  
10 protect ratepayers from any negative effects associated with a downgrading."<sup>8</sup>

11 In view of the foregoing, the Commission is aware that none of UWON's  
12 assets were pledged or used as collateral by any affiliate in connection with the  
13 merger, that SuezE is 35% controlled by GDF and not 100% publicly-traded and  
14 the Commission, should the need ever arise in the future, is prepared to provide  
15 additional ring-fencing mechanisms to maintain the financial integrity of UWON  
16 and its ability to attract capital at reasonable rates.

17 **Q. WHY DOES APPLICATION OF DOUBLE LEVERAGE DISREGARD THE**  
18 **BASIC FUNDAMENTAL PRINCIPLE OF RATE BASE/RATE OF RETURN**  
19 **REGULATION?**

20 A. Double leverage ignores the risk rate to which the common equity investment in  
21 a subsidiary's property rate base is exposed. Only coincidentally could the risk  
22 rate of common equity investment in UWON's rate base be equal to the SuezE's

---

<sup>7</sup> Order, 6.

<sup>8</sup> Order, 6.

1 composite overall cost of capital. Such an equivalence is not the case for SuezE  
2 and UWON.

3 **Q. GIVEN THE INAPPROPRIATENESS OF APPLICATION OF DOUBLE**  
4 **LEVERAGE, HOW SHOULD UWON BE EVALUATED?**

5 A. It is the rate base of UWON, and UWON alone, to which the overall rate of return  
6 set in this proceeding will be applied. Hence, UWON should be evaluated as a  
7 stand-alone utility. To do otherwise would be discriminatory, confiscatory and  
8 inaccurate. It is a generally accepted financial principle that the risk of any  
9 investment is directly related to the assets in which that capital is invested. Just  
10 as with any other utility under its jurisdiction, the Commission must focus on the  
11 risk and return on the common equity investment in UWON's jurisdictional rate  
12 base because it is UWON's rates alone which will be set in this proceeding and it  
13 is UWON's rate base alone which serves its ratepayers.

14 The risk of investment in UWON's rate base is independent of the  
15 ownership or "loaners" of the capital used to finance that rate base. As I  
16 previously stated, it is a basic financial principle that it is the use of the funds  
17 invested which gives rise to the risk of the investment, not the source of the  
18 funds. As Richard A. Brealey and Stewart C. Myers state in Principles of  
19 Corporate Finance<sup>9</sup>, an excerpt of which can be found in Schedule PMA-14:

20 *The true cost of capital depends on the use to which the capital is*  
21 *put.*

22 \* \* \*

---

<sup>9</sup> Brealey, R.A. and Myers, S.C., Principles of Corporate Finance (McGraw-Hill Publications, Inc., 1996) 173 198.

1                   ***Each project should be evaluated at its own opportunity cost***  
2                   ***of capital; the true cost of capital depends on the use to which***  
3                   ***the capital is put.*** (italics and bold in original)  
4

5                   Morin<sup>10</sup> confirms Brealey and Myers when he states (see page 7 of Schedule  
6                   PMA-15):

7                   The double leverage approach contradicts the core of the cost of  
8                   capital concept. Financial theory clearly establishes that the cost of  
9                   equity is the risk-adjusted opportunity cost of the investors and not  
10                  the cost of the specific capital sources employed by the investors.  
11                  The true cost of capital depends on the use to which the capital is  
12                  put and not on its source. The Hope and Bluefield doctrines have  
13                  made clear that the relevant considerations in calculating a  
14                  company's cost of capital are the alternatives available to investors  
15                  and the returns and risks associated with those alternatives. The  
16                  specific source of funding and the cost of these funds to the  
17                  investor are irrelevant considerations.

18  
19                  Hence, UWON must be viewed on its own merits, regardless of the source  
20                  of its equity capital, i.e., UWW, or SuezE.

21                  For example, if one were to inherit money, free of charge, and then invest  
22                  it in a given utility's common stock, one would require a rate of return on that  
23                  stock commensurate with the risks to which that common stock investment is  
24                  exposed. It would be illogical to require a zero return on one's investment in the  
25                  utility's common stock just because there was zero cost in acquiring the capital,  
26                  i.e., inherited money, which was the source of the investment. Even the Internal  
27                  Revenue Service places the cost basis of an inheritor on the market value of the  
28                  inherited common stock on the date of death of the person who willed the stock

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<sup>10</sup> Morin, Roger A., New Regulatory Finance, Public Utilities Reports, Inc., 2006, 523.



1 to the inheritor and not on zero cost to the inheritor. As *Bluefield*<sup>11</sup> so clearly  
2 states:

3 A public utility is entitled to such rates as will permit it to earn a  
4 return on the value of the property which it employs for the  
5 convenience of the public equal to that generally being made at the  
6 same time and in the same general part of the country on  
7 investments in other business undertakings which are attended by  
8 corresponding risks and uncertainties; . . .  
9

10 In other words, it is the “risks and uncertainties” surrounding the property  
11 employed for the “convenience of the public” which determines the appropriate  
12 level of rates and not the source of the capital financing that property. In this  
13 proceeding, the property employed “for the convenience of the public” is the rate  
14 base of UWON. And as discussed previously, SuezE is not the source of  
15 UWON’s capital, nor can UWON’s assets be pledged or used as collateral by  
16 SuezE. Therefore, it is only the risk of investment in UWON’s rate base that is  
17 relevant to the determination of a cost rate of common equity to be applied to the  
18 common equity financed portion of that rate base.

19 Morin<sup>12</sup> concludes on page 12 of Schedule PMA-15:

20 The double leverage approach has serious conceptual and  
21 practical limitations and is not consistent with basic financial theory  
22 and the notion of fairness. The assumptions and logic underlying  
23 the method are questionable. The double leverage argument  
24 violates the core notion that an investment’s required return  
25 depends on its particular risks. The Double Leverage approach  
26 has no place in regulatory practice and should be discarded.  
27 (emphasis added)  
28

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<sup>11</sup> Bluefield Water Works Improvement Co. v. Public Serv. Comm’n, 252 U.S. 679 (1922).

<sup>12</sup> Morin 528.

1 Q. DOES THE FINANCIAL LITERATURE SUPPORT THE USE OF ACTUAL  
2 CAPITAL STRUCTURE UNLESS IT IS CLEARLY UNSOUND?

3 A. Yes. Bonbright<sup>13</sup> states:

4 [t]he use of a hypothetical or 'typical' capitalization substitutes an  
5 estimate of what a capital cost would be under non-existing  
6 conditions for what it *actually is* or *will soon be* under prevailing  
7 conditions. However, if the existing capital structure is clearly  
8 unsound or is extravagantly conservative, the rule may need to be  
9 modified in the public interest. (italics in original)

10  
11 In essence, Ms. Prylo is using a hypothetical capital structure when she  
12 recommends that SuezE's capital structure ratios be used for ratemaking  
13 purposes for UWON. Bonbright suggests that the only time the use of a  
14 hypothetical capital structure should be employed is if the actual capital structure  
15 is "clearly unsound or extravagantly conservative."

16 Q. HOW DOES THE COMPANY'S PROPOSED COMMON EQUITY RATIO AT  
17 SEPTEMBER 30, 2010 COMPARE WITH THOSE MAINTAINED BY MS.  
18 PRYLO'S PROXY GROUP OF THIRTY-ONE ELECTRIC AND WATER  
19 COMPANIES AND YOUR PROXY GROUP OF SIX WATER COMPANIES?

20 A. The Company's proposed September 30, 2010 common equity ratio of 52.20% is  
21 slightly higher but within the range of those maintained, on average, by both Ms.  
22 Prylo's thirty-one electric and water companies as well as my six water  
23 companies. As shown on page 1 of Exhibit \_\_ (KAP-3), the average common  
24 equity ratio of the thirty-one electric and water companies is 49.82%, ranging  
25 from 43.50% to 62.00% with a midpoint of 52.75% while, as shown on Schedule

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<sup>13</sup> Bonbright, James C., Danielsen, Albert L. and Kamerschen, David R., Principles of Public Utility Rates (Public Utilities Reports, Inc., 1988) 309.

1 PMA-16, the common equity ratio, based upon permanent capital of my proxy  
2 group of six water companies averaged 48.53% for the year 2010 ranging from  
3 42.93% to 55.70%, with a midpoint of 49.32% and an average 50.11% for the  
4 five years ending 2010 ranging from 44.88% to 54.07% with a midpoint of  
5 49.48%. Thus, UWON's ratemaking common equity ratio at September 30, 2010  
6 of 52.20% is consistent with, but slightly less financially risky than that of both  
7 Ms. Prylo's electric and water companies and my water proxy companies.

8 Ms. Prylo is correct that I did not make a downward financial risk  
9 adjustment to my recommended common equity cost rate. Had I done so,  
10 following the Hamada equation and a 35% income tax rate, a downward  
11 adjustment of approximately 20 basis points (0.20%) is warranted. Thus, my  
12 originally recommended common equity cost rate of 10.90% would be 10.70% to  
13 reflect the lower financial risk inherent in UWON's proposed capital structure  
14 ratios.

15 In addition, Phillips<sup>14</sup> supports the use of actual capital structure ratios for  
16 ratemaking purposes under such conditions, i.e., when they are consistent with  
17 those of other similar utilities, and not a hypothetical one such as the  
18 consolidated SuezE capital structure when he states:

19 Debt ratios began to rise during the late 1960s and early 1970s,  
20 and the financial condition of the public utility sector began to  
21 deteriorate. It became the common practice to use actual or  
22 expected capitalizations; actual where a historic test year is used,  
23 expected when a projected or future test year is used.<sup>83 (footnote omitted)</sup>  
24

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<sup>14</sup> Phillips, Jr., Charles F., The Regulation of Public Utilities-Theory and Practice (Public Utility Reports, Inc., 1993) 391.

1 The objective, in short, shifted from minimization of the short-term  
2 cost of capital to protection of a utility's ability "to raise capital at all  
3 times. This objective requires that a public utility make every effort  
4 to keep indebtedness at a prudent and conservative level."<sup>84</sup> (footnote  
5 omitted)

6  
7 A hypothetical capital structure is used only where a utility's actual  
8 capitalization is clearly out of line with those of other utilities in its  
9 industry or where a utility is diversified."<sup>85</sup> (footnote omitted) (emphasis  
10 added).

11  
12 In view of the foregoing, since UWON's September 30, 2010 capital  
13 structure ratios are consistent with those maintained on average by the  
14 companies in both Ms. Prylo's electric and water-company and my water  
15 company proxy groups, the Company's proposed capital structure is the only  
16 proper one to use for ratemaking purposes in this proceeding.

17 **Q. HOW DO THE COMPANY'S PROPOSED CAPITAL STRUCTURE RATIOS**  
18 **COMPARE WITH S&P'S BUSINESS RISK/FINANCIAL RISK INDICATIVE**  
19 **FRAMEWORK?**

20 A. UWW, upon whose capital structure ratios UWON's requested overall rate of  
21 return is based, has been assigned an A- bond and credit rating by S&P and  
22 "Excellent" business and "Significant" financial profiles<sup>15</sup>. In contrast, based upon  
23 S&P's business risk/financial risk matrix shown on page 4 of Schedule PMA-3 of  
24 Exhibit No. \_\_\_ and notwithstanding Moody's assignment of an A3 rating to  
25 SuezE, in my opinion, S&P would not assign an A- bond or credit rating to  
26 SuezE. As can be gleaned from Table 2 on page 4 of Schedule PMA-3, SuezE's  
27 debt ratio of 55.65% on December 30, 2010 falls into S&P's "Aggressive"  
28 financial risk indicative ratio category. Likewise, based upon the information

1 contained in SuezE's December 30, 2010 Consolidated Financial Statements,  
2 SuezE's funds from operations/total debt of 19.50% place SuezE in S&P's  
3 "Aggressive" financial risk indicative ratio category, while total debt/EBITDA  
4 (Earnings Before Income Taxes and Depreciation/Amortization) of 3.55%, place  
5 SuezE in S&P's "Significant" financial risk indicative ratio category. As shown in  
6 Table 1 on page 2 of Schedule PMA-3 of Exhibit No. \_\_, the credit rating  
7 associated with S&P's "Excellent" business risk profile and an "Aggressive"  
8 financial risk profile is BBB. While S&P notes that the rating matrix indicative  
9 ratios are a guide and not a guarantee of a rating opinion, S&P also notes that  
10 positive and negative nuances in their analyses could lead to "a notch higher or  
11 lower than the outcomes indicated in the various cells of the matrix." (see page  
12 17, line 4 through page 18, line 11 of my prepared direct testimony).

13 **Q. PREVIOUSLY YOU MENTIONED THAT MS. PRYLO'S TREATMENT OF**  
14 **SuezE's HYBRID SECURITIES IS INCONSISTENT WITH MOODY'S**  
15 **TREATMENT OF THE SECURITIES. PLEASE COMMENT.**

16 **A.** On page 21, line 21 through page 23, line 18 of her prepared direct testimony,  
17 Ms. Prylo discusses what she believes to be a mischaracterization by SuezE of  
18 the \$750 million hybrid securities issued in 2010. She is correct that SuezE has  
19 recognized these securities in accordance with the International Financial  
20 Accounting Standards (IFAS), but does not agree that they should be included in  
21 the common equity ratio of SuezE for ratemaking purposes. As noted in SuezE's  
22 2010 Consolidated Financial Statements: "In accordance with IAS 32, and taking

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<sup>15</sup> Standard & Poor's Issue Ranking: U.S. Investor-Owned Gas and Water Utilities, Strongest to weakest, June 20, 2011.

1 into account its characteristics (no obligation to repay, no obligation to pay a  
2 coupon<sup>1</sup> (footnote omitted) unless a dividend is paid out to shareholders), this  
3 instruments is recognized in equity.”

4 Ms. Prylo also notes on page 23, line 2 through 4 of her prepared direct  
5 testimony that “Moody’s considers half of SuezE’s \$750 million issuance of  
6 hybrids as equity for rating purposes. Nevertheless, Ms. Prylo has substituted  
7 her own judgment for that of either the IFAS or Moody’s by removing 100%  
8 rather than 50% of the \$750 million of hybrid securities from SuezE’s common  
9 equity at December 30, 2010 in developing her recommended capital structure  
10 ratios for UWON.

11 **Q. GIVEN ALL IF THE FOREGOING, SHOULD THE COMMISSION ADOPT**  
12 **STAFF WITNESS PRYLO’S RECOMMENDED CAPITAL STRUCTURE**  
13 **RATIOS?**

14 **A.** No. In view of all the foregoing, Ms. Prylo’s recommended consolidated capital  
15 structure ratios should be rejected by the NYPSC. The Company’s ratemaking  
16 capital structure ratios based upon the UWW December 30, 2010 capital  
17 structure consisting of 47.80% long-term debt and 52.20% common equity are  
18 the only appropriate capital structure ratios to use for ratemaking purposes.  
19 They should be adopted by the NYPSC.

20 **Ms. Prylo’s Proposed Debt Cost Rate**

21 **Q. DO YOU AGREE WITH MS. PRYLO’S USE OF UWW’S DEBT COST RATE IN**  
22 **DEVELOPING HER RECOMMENDED OVERALL RATE OF RETURN FOR**  
23 **UWON?**

1 A. No. Ms. Prylo's use of SuezE's capital structure which is more highly leveraged  
2 than the Company's proposed capital structure is inconsistent with her  
3 recommendation that UWW's debt cost rate be applied to that capital structure.  
4 Thus, her recommendation is internally inconsistent and violates basic financial  
5 theory. Capital structure and the cost of capital are interdependent; the higher the  
6 leverage in capital structure, the more earnings are exposed to interest  
7 payments, and default risk, and the higher the cost of both debt and equity. Ms.  
8 Prylo's use SuezE's capital structure, while employing the cost of debt of UWW  
9 to determine the overall rate of return, creates a clear and inappropriate  
10 mismatch. The cost of debt and the capital structure should be determined by  
11 reference to UWW, as has consistently been the case in rate proceedings  
12 involving UWON and all UWW subsidiaries as discussed previously, because  
13 that is the source of financing and because the capital structure and cost rates  
14 are representative of and consistent with the water utility industry in the US.  
15 Ms. Prylo's recommended return on equity is based upon a proxy group with a  
16 capital structure consisting of approximately 50.00% debt (see page 1 of  
17 Exhibit\_\_(KAP-3), but applied to SuezE's capital structure consisting of 55.65%  
18 debt. Although Ms. Prylo, recognized the higher cost of common equity  
19 associated with her more financially risky recommended capital structure, by  
20 using UWW's cost of debt she has not recognized the higher cost of debt  
21 associated with a greater degree of financial risk. Not to do so is inconsistent  
22 with the basic financial precept of risk and return, i.e., that an investor requires a

1 higher return in compensation for bearing greater risk, be it financial or business  
2 risk.

3 **IV. COMMON EQUITY COST RATE**

4 **Q. DO YOU AGREE WITH MS. PRYLO'S RECOMMENDED COMMON EQUITY**  
5 **COST RATE OF 10.00% BASED UPON AN 8.96% COMMON EQUITY COST**  
6 **RATE UNADJUSTED FOR THE INCREASED FINANCIAL RISK OF HER**  
7 **RECOMMENDED CAPITAL STRUCTURE?**

8 A. No. Ms. Prylo's unadjusted common equity cost rate of 8.96% is based upon a  
9 two-thirds (2/3) / one-third (1/3) weighting to the results of her Discounted Cash  
10 Flow (DCF) analysis and her Capital Asset Pricing Analysis (CAPM). By placing  
11 greater weight, i.e., 2 / 3 weight, on the results of the application of the DCF, the  
12 Staff's methodology is inconsistent with the Efficient Market Hypothesis (EMH)  
13 upon which the DCF is predicated, as discussed in my prepared direct testimony  
14 at page 17, line 15 through page 18, line 14. Moreover, giving 2/3 weight to a  
15 DCF derived cost rate exacerbates its tendency to understate the investors' true  
16 required return in the current market environment where market-to-book ratios  
17 significantly exceed one, especially when combined with the results of but one  
18 additional cost of common equity model, CAPM. In addition, such a cost rate  
19 does not adequately reflect the additional risk experienced by UWON due to its  
20 small size relative to the companies in her proxy group.

21 **Q. WHY IS PLACING GREATER WEIGHT ON THE DCF INCONSISTENT WITH**  
22 **THE EMH?**



1 A. The DCF model utilized by Ms. Prylo is market-based and therefore based upon  
2 the EMH since market prices are employed in its application. As discussed on  
3 page 18, line 17 through page 19, line 8 of my prepared direct testimony, the  
4 CAPM, Risk Premium Model (RPM) and Comparable Earnings Model (CEM) are  
5 also based on the EMH, which is the foundation of modern investment theory.  
6 The EMH was pioneered by Eugene F. Fama<sup>16</sup> in 1970. According to the EMH,  
7 an efficient market is one in which security prices reflect all relevant information  
8 all the time. This implies that prices adjust instantaneously to new information,  
9 thus reflecting the intrinsic fundamental economic value of a security.<sup>17</sup>

10 As noted on page 18, lines 2 through 4 of my prepared direct testimony,  
11 the "semistrong" form of the EMH is generally held to be true because the use of  
12 insider information often enables investors to "outperform the market" and earn  
13 excessive returns in the short-run. The generally-accepted "semistrong" form of  
14 the EMH means that all perceived risks, based upon publicly available  
15 information, are taken into account by investors in the prices they pay for  
16 securities. In addition, investors are aware of such information, including bond  
17 ratings, discussions about companies by bond rating agencies and investment  
18 analysts, as well as the various cost of common equity methodologies (models)  
19 discussed in the financial literature and utilized in ratemaking. This means that  
20 no single common equity cost rate model should be relied upon exclusively in

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<sup>16</sup> Fama, Eugene F., "Efficient Capital Markets: A Review of Theory and Empirical Work" (Journal of Finance, May 1970) 383-417.

<sup>17</sup> Brigham, Eugene F., Financial Management – Theory and Practice, 5<sup>th</sup> Ed. (The Dryden Press, 1985) 225.

1 determining a common equity cost rate and that the results of multiple cost of  
2 common equity cost rate models should be taken into account.

3 In addition, footnote 14 on page 18 of my prepared direct testimony  
4 provides several citations from the academic literature indicating the need to rely  
5 upon multiple, independent cost of common equity models in arriving at a  
6 recommended common equity cost rate.

7 **Q. PLEASE DESCRIBE THIS ACADEMIC LITERATURE.**

8 A. The literature cited in footnote 14 on page 18 of my prepared direct testimony  
9 states the following. For example, Morin<sup>18</sup> states:

10  
11 Each methodology requires the exercise of considerable judgment  
12 on the reasonableness of the assumptions underlying the  
13 methodology and on the reasonableness of the proxies used to  
14 validate a theory. *The inability of the DCF model to account for*  
15 *changes in relative market valuation, discussed below, is a vivid*  
16 *example of the potential shortcomings of the DCF model when*  
17 *applied to a given company.* Similarly, the inability of the CAPM to  
18 account for variables that affect security returns other than beta  
19 tarnishes its use. (italics added)

20  
21 No one individual method provides the necessary level of precision  
22 for determining a fair return, but each method provides useful  
23 evidence to facilitate the exercise of an informed judgment.  
24 Reliance on any single method or preset formula is inappropriate  
25 when dealing with investor expectations because of possible  
26 measurement difficulties and vagaries in individual companies'  
27 market data. (Morin, p. 428)

28 \* \* \*

29  
30  
31 The financial literature supports the use of multiple methods.  
32 Professor Eugene Brigham, a widely respected scholar and finance  
33 academician, asserts:<sup>1(footnote omitted)</sup>  
34

---

<sup>18</sup> Roger A. Morin, New Regulatory Finance (Public Utility Reports, Inc., 2006) 428-431.

1 Three methods typically are used: (1) the Capital Asset Pricing  
2 Model (CAPM), (2) the discounted cash flow (DCF) method, and  
3 (3) the bond-yield-plus-risk-premium approach. These methods  
4 are not mutually exclusive – no method dominates the others,  
5 and all are subject to error when used in practice. Therefore,  
6 when faced with the task of estimating a company's cost of  
7 equity, we generally use all three methods and then choose  
8 among them on the basis of our confidence in the data used for  
9 each in the specific case at hand.

10  
11 Another prominent finance scholar, Professor Stewart Myers, in  
12 an early pioneering article on regulatory finance, stated:<sup>2(footnote</sup>  
13 omitted)

14  
15 Use more than one model when you can. Because estimating  
16 the opportunity cost of capital is difficult, only a fool throws away  
17 useful information. That means you should not use any one  
18 model or measure mechanically and exclusively. Beta is helpful  
19 as one tool in a kit, to be used in parallel with DCF models or  
20 other techniques for interpreting capital market data.

21  
22 Reliance on multiple tests recognizes that no single methodology  
23 produces a precise definitive estimate of the cost of equity. As  
24 stated in Bonbright, Danielsen, and Kamerschen (1988), '*no single*  
25 *or group test or technique is conclusive.*' Only a fool discards  
26 relevant evidence. (italics in original) (Morin, p. 430)

27  
28 \* \* \*

29  
30 While it is certainly appropriate to use the DCF methodology to  
31 estimate the cost of equity, there is no proof that the DCF produces  
32 a more accurate estimate of the cost of equity than other  
33 methodologies. Sole reliance on the DCF model ignores the capital  
34 market evidence and financial theory formalized in the CAPM and  
35 other risk premium methods. The DCF model is one of many tools  
36 to be employed in conjunction with other methods to estimate the  
37 cost of equity. *It is not a superior methodology that supplants other*  
38 *financial theory and market evidence. The broad usage of the DCF*  
39 *methodology in regulatory proceedings in contrast to its virtual*  
40 *disappearance in academic textbooks does not make it superior to*  
41 *other methods. The same is true of the Risk Premium and CAPM*  
42 *methodologies.* (italics added) (Morin, p. 431)  
43  
44

1 Bringham and Gapenski<sup>19</sup> state:

2 In practical work, *it is often best to use all three methods* – CAPM, bond  
3 yield plus risk premium, and DCF – and then apply judgment when the  
4 methods produce different results. People experienced in estimating equity  
5 capital costs recognize that both careful analysis and some very fine  
6 judgments are required. It would be nice to pretend that these judgments  
7 are unnecessary and to specify an easy, precise way of determining the  
8 exact cost of equity capital. Unfortunately, this is not possible. Finance is in  
9 large part a matter of judgment, and we simply must face this fact. (italics in  
10 original)  
11

12 Finally, Bringham and Daves<sup>20</sup> reiterate Bringham and Gapenski's comments when  
13 they state:

14 Recent surveys found that the CAPM approach is by far the most widely  
15 used method. Although most firms use more than one method, almost 74  
16 percent of respondents in one survey, and 85 percent in the other, used the  
17 CAPM.<sup>12 (footnote omitted)</sup>  
18

19 \* \* \*

20  
21 Approximately 16 percent now use the DCF approach, down from 31  
22 percent in 1982. The bond-yield-plus-risk-premium is used primarily by  
23 companies that are not publicly traded.  
24

25 People experienced in estimating the cost of equity recognize that both  
26 careful analysis and sound judgment are required. It would be nice to  
27 pretend that judgment is unnecessary and to specify an easy, precise way  
28 of determining the exact cost of equity capital. Unfortunately, this is not  
29 possible – finance is in large part a matter of judgment, and we simply must  
30 face this fact.  
31

32 In view of all of the foregoing, it is clear that investors are or should be  
33 aware of all of the models available for use in determining a common equity cost  
34 rate. Thus, implicit in the EMH is the assumption that, collectively, investors

---

<sup>19</sup> Bringham, Eugene F. and Gapenski, Louis C., Financial Management – Theory and Practice  
Fourth Edition, (The Dryden Press, 1985) 256.

1 consider them all. Hence, Ms. Prylo's significantly greater reliance upon the DCF  
2 model is at odds with the very foundation, i.e., the EMH, upon which the DCF is  
3 predicated. In addition, absent empirical evidence to the contrary, there is no  
4 evidence, under the EMH, that investors place such degrees of weight upon the  
5 DCF (2/3) and CAPM (1/3) to the exclusion of other models such as the RPM  
6 and CEM. Therefore, it is appropriate for Ms. Prylo to consider the results of the  
7 models equally.

8 **Q. HOW DOES MS. PRYLO'S RECOMMENDED COMMON EQUITY COST RATE**  
9 **COMPARE WITH AUTHORIZED RETURN RATES ON COMMON EQUITY FOR**  
10 **OTHER UTILITIES, BOTH ELECTRIC AND WATER?**

11 A. Ms. Prylo's recommended unadjusted common equity cost rate of 8.96% and  
12 financial risk adjusted common equity cost rate of 10.00% are not consistent with  
13 authorized ROEs for electric utilities from January 14, 2009 through June 17,  
14 2011. As shown on Schedule PMA-17, the average authorized ROE for an  
15 electric utility from January 14, 2009 through June 17, 2011 was 10.40% relative  
16 to a common equity ratio of 48.42%. As shown in Column 11, the average award  
17 of 10.40% in these cases represented an average equity risk premium of 470  
18 basis points (4.70%) (based upon the difference between the authorized ROE  
19 and the most recent monthly average yield on Moody's A rated public utility  
20 bonds prior to each Order, as explained in note (1) on Schedule PMA-17. A  
21 recent (July 6, 2011) yield on Moody's A rated public utility bonds was 5.40%<sup>21</sup>.  
22 Coupling this with an average equity risk premium of 4.70%, the currently

---

<sup>20</sup> Brigham, Eugene F. and Daves, Phillip R., Intermediate Financial Management, (Thomson-Southwestern, 2007) 332-333.

1 indicated common equity cost rate based upon recently authorized ROEs in  
2 litigated electric utility rate cases is 10.10%.

3 However, an ROE of 10.10% still understates the common equity cost rate  
4 for UWON because it neither recognizes the greater financial risk of Ms. Prylo's  
5 proposed capital structure ratios or UWON's smaller relative size. Both the  
6 10.40% average authorized ROE shown on Schedule PMA-17 and the 10.10%  
7 indicated current ROE are relative to the less financially risky electric companies  
8 as evidenced by the average authorized common equity ratio of 48.42%.  
9 Therefore, it cannot be directly compared with either Ms. Prylo's unadjusted  
10 common equity cost rate of 8.96% nor her financial risk adjusted common equity  
11 cost rate of 10.00%. Using the Hamada formula, a tax rate of 35%, Ms. Prylo's  
12 market equity risk premium, beta and risk free rate as shown on Exhibit  
13 \_\_\_\_ (KAP-4), page 3 as well as her recommended common equity ratio of  
14 39.33%, a financial risk adjustment of 91 basis points (0.91%) is necessary in  
15 order for the average authorized ROE for electric companies shown on Schedule  
16 \_\_\_\_ (PMA-17) to appropriately reflect her recommended common equity ratio of  
17 39.33% for UWON. Adding 91 basis points (0.91%) to the 10.40% average  
18 authorized electric company ROE shown on Schedule \_\_\_\_ (PMA-17) and the  
19 10.10% indicated current ROE results in common equity cost rates of 11.31%  
20 and 11.01%, respectively, which reflects the greater relative financial risk of Ms.  
21 Prylo's recommended common equity ratio of 39.33%. In addition, adding a  
22 conservative 40 basis points (0.40%) to reflect UWON's smaller relative size,  
23 results in ROEs of 11.71% and 11.41%, respectively.

1 In view of all the foregoing, Ms. Prylo's recommended unadjusted  
2 common equity cost rate of 8.96% and financial risk adjusted common equity  
3 cost rate of 10.00% are clearly out of line when compared with recent authorized  
4 ROEs for electric companies and especially when those recent authorized ROEs  
5 are adjusted for the greater financial risk inherent in her recommended common  
6 equity ratio and UWON's smaller relative size.

7 **Ms. Prylo's Proxy Group of Thirty-one Electric and Water Companies**

8 **Q. DO YOU HAVE ANY COMMENT ON MS. PRYLO'S RELIANCE UPON A**  
9 **PROXY GROUP OF THIRTY-ONE ELECTRIC AND WATER COMPANIES?**

10 A. Yes. Ms. Prylo's explanation on page 35, lines 10 through 14, of her prepared  
11 testimony that she did not select a separate proxy group of water companies  
12 because "[t]here are not enough publicly traded water companies to use for  
13 developing a proxy group that would produce reliable results" is misleading. She  
14 states at lines 13 and 14 on page 35 of her prepared direct testimony that "*Value*  
15 *Line* only covers five water companies." That is not entirely true. Value Line  
16 Investment Survey's (Value Line) Standard Edition only covers five water  
17 companies. However, Value Line's Small- and Mid-Cap Edition provides  
18 financial data on an additional five water companies. See pages 1 and 2 of  
19 Schedule PMA-18. Thus, Value Line covers ten water utilities which represent  
20 the entire universe of publicly-traded water utilities. While the Small- and Mid-  
21 Cap Edition does not provide Value Line projected growth rates, it does provide  
22 consensus 5-year earnings growth rates as well as betas as shown on pages 3  
23 through 12 of Schedule PMA-18. Projected growth rates in earnings per share

(EPS) are also available from sources such as ThomsonFN First Call (which reflect the consensus estimates of I/B/E/S), Zacks, and Reuters, for example. Thus, the data do exist with which to apply both a DCF analysis and a CAPM analysis to the market data of water companies. This is evidenced by my cost of common equity analysis based upon water companies contained in Schedules PMA-1 through Schedules PMA-11 of Exhibit No. \_\_\_ and as discussed in my prepared direct testimony. Investors, consistent with the EMH discussed previously, are aware of the small universe of publicly traded water companies, as well as the sources of market data and analysts estimates for these companies. In my opinion, investors would look to other water companies, even with limited data, in arriving at their pricing decisions and required return rates on common equity for water companies, rather than look to a group of electric and water companies. Investors would then perform a relative risk analysis relative to other publicly traded water companies to determine a company specific investor required return. Rate of return analysts, such as Ms. Prylo and myself, should emulate investor behavior when arriving at a recommended cost rate of common equity applicable to UWON. Therefore, in my opinion, Ms. Prylo should not have relied upon a group of electric and water companies, but rather a group of water companies in determining a recommended common equity cost rate for UWON.

**Q. CAN YOU PROVIDE SOME EVIDENCE THAT THE RISK OF WATER UTILITIES DIFFERS SIGNIFICANTLY FROM THAT OF ELECTRIC, COMBINATION ELECTRIC AND GAS AND NATURAL GAS DISTRIBUTION UTILITIES?**



1 A. Page 6, line 14, through page 11, line 30 of my prepared direct testimony discuss  
2 some of the differences in risk between water utilities and the electric,  
3 combination electric and gas and natural gas distribution utilities, specifically in  
4 regard to the extraordinary expected capital expenditures necessary to repair,  
5 replace and install new water utility plant, capital intensive nature of water utilities  
6 and their lower relative depreciation rates. UWON and the water industry,  
7 specifically my water proxy group, continued to be more capital intensive in 2010  
8 as well as experiencing lower depreciation rates. Page 1 of Schedule PMA-19  
9 shows that for UWON, it took \$3.14 of net plant in 2010 to produce \$1.00 in  
10 operating revenues and for my water proxy group, it took \$3.84. In contrast, for  
11 Ms. Prylo's proxy group it took \$2.09 of net plant to produce a \$1.00 in operating  
12 revenues. Excluding the water companies from her proxy group only slightly  
13 reduce the capital intensive nature of her group, for the electric companies alone  
14 in her proxy group, it took \$2.08 of net plant to produce a \$1.00 of operating  
15 revenues. Likewise, UWON experiences a depreciation rate significantly lower  
16 than that of my water proxy group Ms. Prylo's proxy group, including and  
17 excluding the water companies. As shown on page 2, UWON's 2010 effective  
18 depreciation rate was 1.8%, while that of my water group was 3.1% and that of  
19 Ms. Prylo's proxy group, both including and excluding the water companies was  
20 3.7%.

21 Relative to expected capital expenditures, in addition to the information  
22 provided by S&P and the Environmental Protection Agency (EPA) on pages 10

1 and 11 of my prepared direct testimony, in its 2009 infrastructure Fact Sheet<sup>22</sup>  
2 published by the American Society of Civil Engineers (ASCE) they state:

3 America's drinking water systems face an annual shortfall of at least  
4 \$11 billion to replace aging facilities that are near the end of their  
5 useful lives and to comply with existing and future federal water  
6 regulations. This does not account for growth in the demand for  
7 drinking water over the next 20 years. Leaking pipes lose an  
8 estimated 7 billion gallons of clean drinking water a day.  
9

10 Water utility capital expenditures as large as projected by the EPA and  
11 ASCE will require significant financing. The three sources typically used for  
12 financing are debt, equity (common and preferred) and cash flow. All three are  
13 intricately linked to the opportunity to earn a sufficient rate of return as well as the  
14 ability to achieve that return. Consistent with the *Bluefield* and *Hope* decisions  
15 discussed previously, the return must be sufficient enough to maintain credit  
16 quality as well as enable the attraction of necessary new capital, be it debt or  
17 equity capital. If unable to raise debt or equity capital, the utility must turn to  
18 either retained earnings or free cash flow, both of which are directly linked to  
19 earning a sufficient rate of return. If either are inadequate, it will be nearly  
20 impossible for the utility to invest in needed infrastructure. Since all utilities  
21 typically experience negative free cash flows, it is clear that an insufficient rate of  
22 return can be financially devastating for utilities and for its customers, the  
23 ratepayers. Page 1 of Schedule PMA-20 demonstrates that the free cash flows  
24 (funds from operations minus capital expenditures) of water utilities as a percent  
25 of total operating revenues has been consistently and more negative than that of

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<sup>22</sup> 2009 American Society of Civil Engineers, Report Card for America's Infrastructure 2009.

1 electric, combination electric and gas and natural gas utilities for the ten years  
2 ended 2010. Magnifying the impact of water utilities' negative free cash flow  
3 position is a continued inability to achieve what may already be an insufficient  
4 authorized rate of return on common equity as will be discussed subsequently.

5 Consequently, as with the previously discussed capital intensity and  
6 depreciation rates, significant capital expenditures relative to net plant as well as  
7 the consistently and more significantly negative free cash flow relative to  
8 operating revenues of water utilities indicates greater investment risk for water  
9 utilities relative to electric, combination electric and gas and natural gas utilities.

10 In view of the foregoing, it is clear that the water and wastewater utility  
11 industry's high degree of capital intensity, low depreciation rates and significant  
12 negative free cash flow, coupled with the need for substantial infrastructure  
13 capital spending, requires regulatory support in the form of adequate and timely  
14 rate relief, as recognized by NARUC, so water and wastewater utilities will be  
15 able to successfully meet the challenges they face.

16 **Q. ARE THERE OTHER INDICATIONS THAT THE WATER UTILITY INDUSTRY**  
17 **EXHIBITS MORE INVESTMENT RISK THAN THE ELECTRIC, COMBINATION**  
18 **ELECTRIC AND GAS AND NATURAL GAS UTILITY INDUSTRIES?**

19 A. Yes. Schedule PMA-20 presents several such indications: total debt / earnings  
20 before interest, taxes, depreciation and amortization (EBITDA); funds from  
21 operations (FFO) / total debt; funds from operations / interest coverage; before-  
22 income tax / interest coverage; earned ROEs and earned v. authorized ROEs for  
23 each utility industry for the ten years ended 2010. The increasing proportion of

1 total debt to EBITDA for the water utilities indicates significantly increasing and  
2 greater financial risk for water utilities, which began the most recent ten years  
3 below that of electric, combination electric and gas and natural gas utilities.

4 As noted previously, S&P evaluates total debt as a percentage of EBITDA  
5 and FFO as a percentage of debt in the bond / credit rating process. Page 2 of  
6 Schedule PMA-20 shows that total debt / EBITDA has risen steadily for water  
7 utilities for the ten years ended 2010, dropping only slightly for 2010.  
8 Notwithstanding the decline in 2010, total debt / EBITDA is now higher than that  
9 for electric, combination electric and gas and natural gas utilities. Page 3 shows  
10 that FFO / total debt has steadily declined for water utilities over the decade  
11 ending 2010, while rising for the other utility groups. The consistently low level of  
12 FFO / total debt for the water utilities, is a further indication of the pressures upon  
13 water utility cash flows and the increased relative investment risk which the water  
14 utility industry faces.

15 Pages 4 and 5 of Schedule PMA-20 confirm the pressures upon both cash  
16 flows and income faced by water utilities. Page 4 shows that FFO / interest  
17 coverage for water, electric, combination electric and gas and natural gas utilities  
18 followed a similar pattern to FFO interest coverage for the ten years ended 2010.  
19 FFO interest coverage remained relative consistent for water utilities, rising and  
20 falling between 2.0 and 3.0 times during the period. A similar pattern was  
21 exhibited by electric utilities. However, FFO / total debt for combination electric  
22 and gas as well as natural gas utilities rose during the ten years, exceeding that  
23 of water utilities significantly in 2009 and dropping back somewhat in 2010. Page

1 5 shows that before-income tax coverage interest coverage for water utilities also  
2 remained relatively stable, falling below that of gas utilities in 2002 and below  
3 that of electric and combination electric and gas utilities between 2005 and 2006,  
4 where it remained for the remainder of the ten years. In 2010, in all likelihood  
5 due to the "Great Recession" and the economy's currently nascent, fragile  
6 recovery from it, before-income tax interest coverage for water, electric and  
7 combination electric and gas utilities has converged at slightly lower than 3.0  
8 times, while natural gas utilities continue to enjoy a significantly greater before-  
9 income tax interest coverage of approximately 4.25 times in 2010. Once again,  
10 the consistency and relatively low level of interest coverage ratios for water  
11 utilities are further indications of the pressures upon cash flow which water  
12 utilities face, confirming greater investment risk for water utilities relative to  
13 electric, combination electric and gas and natural gas utilities.

14 A final indication of the relative investment risk of water utilities compared  
15 with electric, combination electric and gas and natural gas utilities, are trends in  
16 earned and authorized ROEs. As shown on page 6 of Schedule PMA-20, earned  
17 ROEs, on average, for water utilities have generally been below those of electric,  
18 combination electric and gas and natural gas utilities during the ten years ended  
19 2010. They have consistently been lower for the last five years. However, such  
20 a comparison would not be complete without a comparison of earned ROEs with  
21 authorized ROEs, as shown on pages 7 through 10 of Schedule PMA-20. The  
22 authorized ROEs are those reported in AUS Utility Reports for the last month of  
23 each year representing the authorized ROEs in effect during the previous year,

1        rather than the outcomes of rate cases decided during the year. Hence, these  
2        authorized ROEs represent the revenue requirements of each year which give  
3        rise to the earned ROEs in each year. Water utilities generally, consistently and  
4        dramatically earned far below their authorized ROEs, while electric and  
5        combination electric and gas earned above their authorized ROEs in some years  
6        and below in others. In contrast, natural gas utilities generally, consistently and  
7        dramatically earned above their authorized ROEs. Notwithstanding the closing of  
8        the gap between the average authorized ROEs for the various utility groups over  
9        the ten year period, for the majority of the period, water utilities have failed to  
10       earn their average authorized ROE with earned ROEs significantly lower than  
11       authorized, a likely contributing factor to the greater risk indicated by the  
12       previously discussed coverage metrics.

13                In view of all of the foregoing, it is clear that the investment risk of water  
14       utilities, has increased over the most recent ten years and that water utilities  
15       currently face greater investment risk relative to electric, combination electric and  
16       gas and natural gas utilities. Coupled with the fact that there is broad based  
17       market information available for the publicly traded companies in the water utility  
18       industry, it is therefore appropriate and possible to utilize a water utility proxy  
19       group and not an electric proxy group augmented by a limited number of water  
20       utilities.

21       **Q.    IS THERE ANYTHING ELSE INAPPROPRIATE ABOUT MS. PRYLO'S USE**  
22       **OF AN ELECTRIC AND WATER COMPANY PROXY GROUP?**

1 A. Yes. Having performed a common equity cost rate analysis based upon electric  
2 and water companies, Ms. Prylo then neglected to perform a complete relative  
3 business risk analysis between her electric and water companies and UWON.  
4 Significant differences in business risk include the significantly greater capital  
5 intensity and lower depreciation rates of the water industry, in general, and  
6 UWON, specifically, relative to the electric utility industry discussed previously as  
7 well as the smaller relative size of UWON relative to the companies in her proxy  
8 group.

9 **Q. PLEASE DISCUSS THE RISK IMPLICATIONS OF UWON'S SMALL SIZE**  
10 **RELATIVE TO THE PROXY GROUP OF SIX AUS UTILITY REPORTS WATER**  
11 **COMPANIES AND MS. PRYLO'S PROXY GROUP OF THIRTY-ONE**  
12 **ELECTRIC AND WATER COMPANIES.**

13 A. In general, all else equal, one significant element of business risk is size, as  
14 discussed on page 11, line 32 through 13, line 9 and again at page 49, line 31,  
15 through page 51, line 13 of my prepared direct testimony. Ms. Prylo  
16 acknowledges as much when, relative to her discussion of the definition of  
17 business risk on page 19 of her prepared direct testimony, specifically at lines 12  
18 through 14, she states that "[s]ize is also factored into the equation because a  
19 smaller company implies less diversification and less financial flexibility." Smaller  
20 companies are less capable of coping with significant events which affect sales  
21 revenues and earnings. For example, the loss of revenues from a few larger  
22 customers, for example, would have a greater effect on a small company such as  
23 UWON than on much larger companies with larger customer bases such as the

1 companies in Ms. Prylo's proxy group of electric utility holding companies. In  
2 addition, the effect of extreme weather conditions, i.e., prolonged droughts or  
3 extremely wet weather, will have a greater effect upon a small operating water  
4 utility than upon the much larger, more geographically diverse holding  
5 companies.

6 Further evidence of the risk effects of size includes the fact that investors  
7 demand greater returns to compensate them for a lack of marketability and  
8 liquidity for the securities of smaller firms. As discussed previously, because  
9 UWON is the regulated utility to whose rate base the NYPSC's ultimately allowed  
10 overall cost of capital and fair rate of return will be applied, the relevant risk  
11 reflected in the cost of capital must be that of UWON, including the impact of its  
12 small size on common equity cost rate. Hence, size is an important factor which  
13 affects common equity cost rate.

14 **Q. PLEASE COMPARE THE SIZE OF UWON WITH THAT OF THE PROXY**  
15 **GROUP OF SIX AUS UTILITY REPORTS WATER COMPANIES AND MS.**  
16 **PRYLO'S THIRTY-ONE ELECTRIC AND WATER COMPANIES.**

17 A. UWON is significantly smaller than the average company in either my water  
18 proxy group or Ms. Prylo's electric and water proxy group based upon the results  
19 of a study of the market capitalization of UWON estimated relative to the water  
20 proxy group and Ms. Prylo's proxy group of thirty-one electric and water  
21 companies. The results are shown on Schedule PMA-21. Page 1 contains a  
22 chart of the results, while page 2 is a summary of the small size risk premiums  
23 based upon the Ibbotson Associates 2010 size premia study, and page 3



contains a summary of the market capitalizations based upon the average market price used by Ms. Prylo in her DCF analysis. Pages 4 through 15 provide an updated excerpt from Ibbotson® SBBI® – 2011 Valuation Yearbook – Market Results for Stocks, Bonds, Bills and Inflation – 1926-2010 (SBBI – 2011) regarding the size premium. As can be seen on both pages 1 and 2 of Schedule PMA-21, the Company is significantly smaller than the average company in either the water proxy group or in Ms. Prylo's electric proxy group based upon market capitalization as shown below:

Table 1

	<u>Market Capitalization(1)</u> (\$ Millions)	<u>Times Greater than the Company</u>
UWON		
Based upon the Proxy Group of Six Water Cos.	\$4.744	
Based upon Ms. Prylo's Proxy Group of Thirty-One Electric & Water Cos.	3.163	
Proxy Group of Six Water Companies	1,621.756	341.9x
Ms. Prylo's Proxy Group of Thirty-One Electric & Water Cos.	12,028.942	3,803.0x

Because UWON's common stock is not publicly traded, I have assumed that if it were publicly traded, its common shares would be selling at the same market to book ratios as either the average water company or the average electric and water company. Hence, UWON's market capitalization is estimated to be \$4.744 and \$3.163 million based upon the water and electric and water proxy groups, respectively. In contrast, the market capitalization of the average

1 water company was \$1.622 billion and the average company in Ms. Prylo's proxy  
2 group was approximately \$12.029 billion, or 341.9 and 3,803.0 times larger than  
3 UWON's estimated market capitalization, respectively. It is conventional wisdom,  
4 supported by actual returns over time, and a general premise contained in basic  
5 finance textbooks<sup>23</sup>, that smaller companies tend to be more risky causing  
6 investors to expect greater returns as compensation for that risk. Pages 4 5  
7 through 15 of Schedule PMA-21 of confirm this proposition to be true. As shown  
8 on page 2 of Schedule PMA-21 the average size premium for common stocks in  
9 the 10<sup>th</sup> decile, in which UWON falls, was 6.36% from 1926-2010. In contrast,  
10 size premiums for the 6<sup>th</sup> decile in which the average water company falls and  
11 the 2<sup>nd</sup> decile in which Ms. Prylo's average electric and water company falls were  
12 1.82% and 0.81% from 1926-2010. As also shown on page 2, the size premium  
13 spreads between the six water companies and thirty-one electric and water  
14 companies and UWON are 4.54% and 5.55%, respectively.

15 In view of UWON's extremely small estimated market capitalization,  
16 relative to the estimated average market capitalization of the thirty-one electric  
17 and water companies, in my opinion, it is conservatively reasonable to assume a  
18 small size risk premium of 0.40% or 40 basis points, as I have done relative to  
19 my water proxy group in my prepared direct testimony, although a size premium  
20 as large as 5.55% is indicated as discussed above. Adding 40 basis points to  
21 Ms. Prylo's 2/3-1/3 weighted DCF and CAPM results adjusted for the greater  
22 financial risk of her recommended capital structure of 10.00% results in an

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<sup>23</sup> See lines 11-22 on page 16 of Ms. Ahern's prepared direct testimony.

1 indicated return rate on common equity of 10.40%, while adding 5.55%, the  
2 result is 15.55%, which clearly demonstrates the inadequacy of Ms. Prylo's  
3 recommended 10.00%.

4 **Discounted Cash Flow Model**

5 **Q. DO YOU HAVE ANY COMMENTS ABOUT MS. PRYLO'S APPLICATION OF**  
6 **THE DISCOUNTED CASH FLOW MODEL?**

7 A. Yes. Ms. Prylo's DCF results are understated for two reasons. First, she  
8 incorrectly relies exclusively upon a two-stage growth version of the DCF model.  
9 Second, she incorrectly relies upon both dividend growth and sustainable growth  
10 in her application of the two-stage DCF.

11 **Q. PLEASE COMMENT UPON THE APPLICABILITY OF THE TWO-STAGE DCF**  
12 **WHEN DETERMINING A REGULATED WATER UTILITY'S SUCH AS**  
13 **UWON'S, COMMON EQUITY COST RATE.**

14 A. As discussed on page 19, line 20 through page 20, line 18 of my prepared direct  
15 testimony, there is no basis for applying multi-stage growth versions of the DCF  
16 model to determine the common equity cost rates of mature public utility  
17 companies. Therefore, the constant growth model is most appropriate. In my  
18 experience, it is the most widely utilized version of the DCF used in public utility  
19 rate base / rate of return regulation. In my opinion, it is widely utilized because  
20 utilities are generally in the mature stage of their lifecycles and not transitioning  
21 from one growth stage to another. This is especially true for water utilities.

22 All companies, including utilities, go through typical life cycles in their  
23 development, initially progressing through a growth stage, moving onto a

1 transition stage and finally assuming a steady-state or constant growth state.  
2 However, the U.S. public utility industry is a long-standing industry in the U.S.,  
3 dating back to approximately 1882<sup>24</sup>. The standards of rate of return regulation of  
4 public utilities date back to the previously discussed principles of fair rate of  
5 return established in the Hope<sup>25</sup> and Bluefield<sup>26</sup> decisions of 1944 and 1923,  
6 respectively. Hence, the public utility industry in the U.S. is a stable and mature  
7 industry characterized by the steady-state or constant-growth stage of a multi-  
8 stage DCF model. The economics of the utility industry reflect the features of  
9 this relative stability and demand maturity. As regulated businesses, their returns  
10 on capital investment, i.e., rate base, are set through a ratemaking process and  
11 not determined in the competitive markets. This characteristic, taken together  
12 with the longevity of the public utility industry, all contribute to the stability and  
13 maturity of the industry, including the water utility industry. Moreover, Ms. Prylo  
14 also characterizes the utility industry as "mature" and / or "stable" three times in  
15 her prepared direct testimony. First, on page 44, lines 1 and 2, she cites "the  
16 relatively mature and stable nature of the utility industry." Second, on page 49,  
17 lines 13 and 14, she characterizes the utility industry as "a mature sector" of the  
18 economy as a whole. Finally, on page 52 at lines 7 and 8, she characterizes the  
19 electric utility industry as "relatively stable."

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<sup>24</sup> Bonbright, Danielsén and Kamerschen 334.

<sup>25</sup> Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591 (1944).

<sup>26</sup> Bluefield Water Works Improvement Co. v. Public Serv. Comm'n, 262 U.S. 679 (1923).

1           Therefore, it is neither necessary nor appropriate to rely upon multi-stage  
2 versions of the DCF model, including the two-stage version Ms. Prylo used. The  
3 appropriate DCF model for regulated utility cost of capital purposes is the single-  
4 stage constant growth DCF model, which I utilized in my prepared direct  
5 testimony.

6   **Q.   PLEASE COMMENT UPON MS. PRYLO'S USE OF DIVIDEND GROWTH AND**  
7       **SUSTAINABLE GROWTH IN HER APPLICATION OF THE TWO-STAGE DCF**  
8       **MODEL.**

9   A.   DCF theory indicates that an investor buys a stock for an expected total return  
10 rate composed of cash flows received in the form of dividends plus appreciation  
11 in market price, or as Morin<sup>27</sup> says on page 3 of Schedule PMA-22, "dividends,  
12 rather than earnings, constitute the source of value." Nevertheless, as noted on  
13 page 22, line 6 through 12 of my prepared direct testimony:

14           Over the long run, there can be no growth in DPS without growth in  
15 EPS. Security analysts' earnings expectations have a more  
16 significant, but not sole, influence on market prices than dividend  
17 expectations. Thus, the use of earnings growth rates in a DCF  
18 analysis provides a better matching between investors' market  
19 appreciation expectations and the growth rate component of the  
20 DCF. Earnings expectations have a significant influence on market  
21 prices and their appreciation or the "growth" experienced by  
22 investors.<sup>28</sup>

23           Morin corroborates this concept when he also states on page 252 of New  
24       Regulatory Finance (page 3 of Schedule PMA-22):

25           This does not mean that earnings are unimportant for they provide  
26 the basis for paying dividends.  
27  
28

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<sup>27</sup> Morin 252.

<sup>28</sup> Morin 298 – 303.

1 In fact, Morin states the following on page 298 of New Regulatory Finance  
2 (page 3 of Schedule PMA-23):

3 Because of the dominance of institutional investors and their  
4 influence on individual investors, analysts' forecasts of long-run  
5 growth rates provide a sound basis for estimating required returns.  
6 Financial analysts exert a strong influence on the expectations of  
7 many investors who do not possess the resources to make their  
8 own forecasts, that is, they are a cause of g. The accuracy of these  
9 forecasts in the sense of whether they turn out to be correct is not  
10 at issue here, as long as they reflect widely held expectations. As  
11 long as the forecasts are typical and/or influential in that they are  
12 consistent with current stock price levels, they are relevant. The  
13 use of analysts' forecasts in the DCF model is sometimes  
14 denounced on the grounds that it is difficult to forecast earnings  
15 and dividends for only one year, let alone for longer time periods.  
16 This objection is unfounded, however, because it is present  
17 investor expectations that are being priced; it is the consensus  
18 forecast that is embedded in price and therefore in required return,  
19 and not the future as it will turn out to be.

20 \* \* \*

21  
22  
23 Published studies in the academic literature demonstrate that  
24 growth forecasts made by security analysts represent an  
25 appropriate source of DCF growth rates, are reasonable indicators  
26 of investor expectations and are more accurate than forecasts  
27 based on historical growth. These studies show that investors rely  
28 on analysts' forecasts to a greater extent than on historic data only.  
29

30 My prepared direct testimony also cites Dr. Myron Gordon, the "father" of  
31 the standard regulatory version of the DCF model widely utilized throughout the  
32 U. S. in rate base / rate of return regulation, who has recognized the significance  
33 of analysts' forecasts of growth in EPS. (see page 22, line 20 through page 23,  
34 line 4 of my prepared direct testimony). Also cited in my prepared direct  
35 testimony at page 23, lines 23 and 24 is the fact that studies performed by Cragg

1 and Malkiel<sup>29</sup> demonstrate that analysts' forecasts are superior to historical  
2 growth rate extrapolations.

3 Finally, Ms. Prylo cites Jeremy Siegel's book "Stocks For the Long Run"  
4 on page 53, lines 11 through 17, that "discounting earnings results is [sic] an  
5 overstatement of a stock's value" and then concludes that "in this case where the  
6 required return is being determined, an overstatement in the expected growth  
7 rate of dividends." Her citation and conclusion misplaced for two reasons.  
8 Schedule PMA-24 is an excerpt from the 2002 edition of Siegel's book, where  
9 her citation is found on page 7. First, Siegel never extended his comment relative  
10 to discounting earnings results in an overstatement of a stock's value to include  
11 Ms. Prylo's misplaced conclusion that Siegel is implying that "where the required  
12 return is being determined an overstatement in the expected growth rate of  
13 dividends [results]." (lines 14 through 17 on page 53 of Ms. Prylo's prepared  
14 direct testimony. Second, the section in Siegel's 2002 book which contains Ms.  
15 Prylo's citation actually supports the use of earnings growth forecasts when  
16 valuing stocks. He states:

17 For the equity holder, the source of future cash flows is the earnings of  
18 firms. (p. 90)

19 \* \* \*

20  
21  
22 Some people argue that shareholders most value stocks' cash dividends.  
23 But this is not necessarily true. (p. 91)

24 \* \* \*

25  
26  
27 Since the price of a stock depends primarily on the present discounted  
28 value of all expected future dividends, it appears that dividend policy is

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<sup>29</sup> John G. Cragg and Burton G. Malkiel, Expectations and the Structure of Share Prices (University of Chicago Press, 1982) Chapter 4.

1 crucial to determining the value of the stock. However this is not generally  
2 true. (p. 92)

3 \* \* \*

4  
5  
6 Since stock prices are the present value of future dividends, it would seem  
7 natural to assume that economic growth would be an important factor  
8 influencing future dividends and hence stock prices. However, this is not  
9 necessarily so. The determinants of stock prices are earnings and  
10 dividends on a *per-share* basis. Although economic growth may influence  
11 *aggregate* earnings and dividends favorably, economic growth does not  
12 necessarily increase the growth of per-share earnings or dividends. It is  
13 earnings per share (EPS) that is important to Wall Street because per-  
14 share data, not aggregate earnings or dividends, are the basis of investor  
15 returns. (*italics in original*) (pp. 93-94)  
16

17 Not only does this last paragraph support the use of security analysts'  
18 EPS growth forecasts, it does not support the use of GDP growth by Ms. Prylo as  
19 a check on the appropriate growth rate to use in a DCF calculation.

20 **Q. MS. PRYLO STATES ON PAGE 53, LINES 18 THROUGH 20 OF HER**  
21 **PREPARED DIRECT TESTIMONY THAT "ANALYSTS' EARNINGS**  
22 **FORECASTS ARE . . . SOMETIMES PRONE TO GRAVE INACCURACIES."**  
23 **PLEASE COMMENT.**

24 **A.** While some question the accuracy of analyst's forecasts of EPS growth, it does  
25 not really matter what the level of accuracy of those analysts' forecasts is well  
26 after the fact. What is important is that they influence investors and hence the  
27 market prices they pay. Moreover, there is no empirical evidence that investors,  
28 consistent with the EMH, would discount or disregard analysts' estimates of the  
29 growth in earnings per share, given the empirical research supporting their use in  
30 a DCF application.



1 Investors also are aware of the accuracy of past forecasts, whether for  
2 earnings or dividends growth or for interest rates. Investors have no prior  
3 knowledge of the accuracy of any forecasts available at the time they make their  
4 investment decisions, as that accuracy only becomes known after some future  
5 period of time has elapsed. Investors have such analysts' earnings growth rate  
6 projections available to them, investors are aware of the accuracy of such  
7 projections, and investors are aware of the empirical research in support of such  
8 growth forecasts.

9 In view of all of the foregoing, Ms. Prylo should more correctly have relied  
10 upon security analysts' earnings per share growth projections in a single-stage  
11 growth rate DCF analysis.

12 **Q. DO YOU AGREE WITH MS. PRYLO'S RELIANCE UPON SUSTAINABLE**  
13 **GROWTH IN THE SECOND-STAGE OF HER DCF ANALYSIS?**

14 A. No. Ms. Prylo's second-stage DCF growth rate utilizes the sustainable growth  
15 methodology for determining the growth rate component. She calculates  
16 sustainable growth for "each company in the proxy group based on its projected  
17 retention of earnings and growth in common stock balances" as she states on  
18 lines 1 through 3 on page 48 of her prepared direct testimony. On page 2 of  
19 Exhibit\_\_\_(KAP-4), it is clear that the return on equity utilized in Ms. Prylo's  
20 growth rate analysis is based upon five-year expectations by Value Line. her  
21 allowance for growth caused by the sale of new common stock above book value  
22 was also based upon the five-year growth in shares from 2011 through 2014-  
23 2016. Hence, Ms. Prylo's sustainable growth methodology is a short-term

1 forecast, no longer than the security analysts' five-year forecasts of EPS growth  
2 used in my DCF analysis.

3 Moreover, her sustainable growth methodology is inherently circular  
4 because it relies upon an expected ROE on book common equity which is then  
5 used in a DCF analysis to establish a common equity cost rate related to the  
6 market value of the common stock which, if authorized as the allowed ROE in  
7 this proceeding, will become the expected ROE on book common equity. Thus,  
8 the resultant allowed DCF derived ROE on book common equity, Ms. Prylo's  
9 recommended 8.96%, is lower than the expected average Value Line ROE of  
10 10.04% for her proxy group, as discussed previously, used to derive the allowed  
11 ROE based upon that proxy group's market data. Schedule PMA-23, an excerpt  
12 from Roger A. Morin's book New Regulatory Finance, states the following on  
13 pages 306 and 307 (page 11-12 of Schedule PMA-23):

14 There are three problems in the practical application of the  
15 sustainable growth method. The first is that it may be even more  
16 difficult to estimate what  $b$ ,  $r$ ,  $s$  and  $v$  investors have in mind than it  
17 is to estimate what  $g$  is they envisage. It would appear far more  
18 economical and expeditious to use available growth forecasts and  
19 obtain  $g$  directly instead of relying on four individual forecasts of the  
20 determinants of such growth. *It seems only logical that the*  
21 *measurement and forecasting errors inherent in using four different*  
22 *variables to predict growth far exceed the forecasting error inherent*  
23 *in the direct forecast of growth itself.*

24  
25 *Second, there is a potential element of circularity in estimating  $g$  by*  
26 *a forecast of  $b$  and ROE for the utility being regulated, since ROE is*  
27 *determined in large part by regulation. To estimate what ROE*  
28 *resides in the minds of investors is equivalent to estimating the*  
29 *market's assessment of the outcome of regulatory hearings.*  
30 Expected ROE is exactly what regulatory commissions set in  
31 determining an allowed rate of return. In other words, the method  
32 requires an estimate of return on equity before it can even be  
33 implemented. *Common sense would dictate the inconsistency of a*

1           *return on equity recommendation that is different than the expected*  
2           *ROE that the method assumes the utility will earn forever. For*  
3           *example, using an expected return on equity of 11% to determine*  
4           *the growth rate and using the growth rate to recommend a return*  
5           *on equity of 9% is inconsistent. It is not reasonable to assume that*  
6           *this regulatory utility company is expected to earn 11% forever, but*  
7           *recommend a 9% return on equity. The only way this utility can*  
8           *earn 11% is that rates be set by the regulator so that the utility will,*  
9           *in fact, earn 11%....*

10  
11           Third, the empirical finance literature discussed earlier  
12           demonstrates that the sustainable growth method of determining  
13           growth is not as significantly correlated to measures of value, such  
14           as stock price and price/earnings ratios, as other historical  
15           measures or analysts' growth forecasts. *Other proxies for growth*  
16           *such as historical growth rates and analysts' growth forecasts*  
17           *outperform retention growth estimates. (italics added)*  
18

19           In view of the foregoing, it is clear that Ms. Prylo's application of the DCF  
20           is circular and ignores the basic principle of rate base / rate of return regulation,  
21           namely, that the cost of equity which will be authorized in this proceeding will be  
22           applied to the jurisdictional book value rate base of UWON and become the  
23           allowed future earned return on book common equity, i.e., the expected ROE  
24           component of the sustainable growth method.

25   **Q.   WHAT WOULD MS. PRYLO'S DCF RESULT HAVE BEEN HAD HE**  
26   **PROPERLY UTILIZED A SINGLE-STAGE DCF AS WELL AS FORECASTED**  
27   **GROWTH IN EPS FROM VALUE LINE, HER SOURCE FOR GROWTH IN HER**  
28   **TWO-STAGE DCF ANALYSIS?**

29   **A.**   On Schedule PMA-25 I have shown a recalculated DCF analysis based upon Ms.  
30           Prylo's DPS, average market price and Value Line's forecasted 5-year growth in  
31           EPS. As shown, the average indicated DCF common equity cost rate is 10.87%  
32           and the median, upon which Ms. Prylo relies, is 11.61%. These properly

1       calculated DCF cost rates also confirm that both Ms. Prylo's unadjusted  
2       recommended ROE of 8.96% and her financial risk adjusted ROE of 10.00% are  
3       grossly understated. In addition, even this corrected DCF analysis understates  
4       the cost of common equity for UWON because it does not reflect UWON's  
5       additional business risk due to its small size or greater financial risk due to the  
6       greater financial risk of Ms. Prylo's recommended capital structure ratios.

7       **Capital Asset Pricing Model**

8       **Q. DO YOU AGREE WITH MS. PRYLO'S APPLICATION OF THE CAPITAL**  
9       **ASSET PRICING MODEL?**

10      A. No. Ms. Prylo's CAPM results are understated for three reasons. First, she  
11      relies exclusively upon an average of Merrill Lynch's "Implied Return" and  
12      "Required Return" from the February 2011 and March 2011 Quantitative Profiles  
13      without looking to other sources of the expected market return such as long-term  
14      returns on the market from the Ibbotson® SBBI – 2011 Valuation Yearbook –  
15      Market Returns for Stocks, Bonds, Bills, and Inflation – 1926-2010,<sup>30</sup> or a  
16      projected total market return derived from Value Line's projected median price  
17      appreciation and projected median dividend yield.

18               Second, she does not utilize a projected risk-free rate. Since both the cost  
19      of capital and rate making are prospective in nature, it is appropriate to utilize a  
20      forecasted risk-free rate in a CAPM analysis, as I have done in my prepared  
21      direct testimony.

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<sup>30</sup> Ibbotson SBBI – 2011 Valuation Yearbook – Market Returns for Stocks, Bonds, Bills and Inflation for 1926-2010.

1 Third, she erroneously averages the yields on 10-year and 30-year U. S.  
2 Treasury bonds to develop her risk-free rate. It is not appropriate to utilize the  
3 yields on 10-year U.S. Treasury Bonds for cost of capital purposes because their  
4 term, i.e., ten years, is not consistent with the long-term cost of capital to public  
5 utilities as measured by the yields on A rated public bonds. As discussed in my  
6 prepared direct testimony at page 39, line 13 through page 40, line 6, such an  
7 average is not consistent with either the long-term investment horizon inherent in  
8 utilities' common stocks, or the long-term investment horizon presumed in the  
9 DCF model. In addition, it is not consistent with the typical long-term life of the  
10 jurisdictional rate base to which the allowed fair rate of return, i.e., cost of capital,  
11 will be applied. Hence, it would have been more appropriate for Ms. Prylo to use  
12 the yields on 30-year U. S. Treasury bonds and not the average of the yields on  
13 10-year and 30-year U. S. Treasury bonds.

14 All of this serves to seriously understate Ms. Prylo's CAPM results.

15 **Q. CAN YOU DEMONSTRATE WHY IT IS APPROPRIATE TO USE THE**  
16 **IBBOTSON ASSOCIATES LONG-TERM (1926-2010) HISTORICAL DATA IN A**  
17 **CAPM ANALYSIS?**

18 A. Yes. As discussed on page 29, line 7 through page 34, line 1 of my prepared  
19 direct testimony and in Schedule PMA-8, the use of holding period returns over a  
20 very long period of time is useful in a cost of capital analysis. On pages 30 and  
21 31 of my prepared direct testimony, I provided a citation from Ibbotson® SBBI® –  
22 2010 Valuation Yearbook – Market Results for Stocks, Bonds, Bills and Inflation  
23 – 1926-2009 (SBBI – 2010) (which is also contained in SBBI - 2011)

1 demonstrating the appropriateness of the use of such long-term historical data in  
2 a cost of capital analysis. In addition, the use of long-term data in a cost of  
3 capital analyses is consistent with the previously-discussed long-term investment  
4 horizon presumed by the DCF model. Moreover, arithmetic mean return rates  
5 are appropriate for cost of capital purposes. as noted by SBBI – 2010 (and also  
6 contained in SBBI – 2011) in the excerpt attached to Schedule PMA-8 of Exhibit  
7 No. \_\_\_ and demonstrated on pages 1 through 3 of Schedule PMA-8 of Exhibit  
8 No. \_\_\_ discussed on page 33, line 15 through page 34, line 11 of my prepared  
9 direct testimony.

10 In addition, the use of the Ibbotson Associates long-term historical data in  
11 a CAPM analysis is consistent with the methodology adopted by the NYPSC in  
12 Cases 02-E-0198 and 02-G-0199 cited by Ms. Prylo on page 68 of her prepared  
13 direct testimony.

14 In view of all the foregoing, it should be clear that the arithmetic mean  
15 long-term historical risk premium which takes account of the standard deviation  
16 of returns, or volatility and which is critical to risk analysis into account is the  
17 appropriate for cost of capital purposes.

18 **Q. CAN YOU EXPLAIN YOUR PRIOR STATEMENT THAT MS. PRYLO SHOULD**  
19 **ALSO HAVE RELIED UPON A FORWARD-LOOKING MARKET EQUITY RISK**  
20 **PREMIUM BASED UPON VALUE LINE'S FORECASTED TOTAL ANNUAL**  
21 **MARKET RETURN PLUS FORECASTED DIVIDEND YIELD?**

22 A. Using a forward-looking market equity risk premium based upon Value Line data  
23 is consistent with Ms. Prylo's exclusive reliance upon Value Line projections in

1 her DCF analysis. In addition, it provides an additional tool and added reliability  
2 to estimating the market equity risk premium. Therefore, in my opinion, equal  
3 weight should be given to the current forecasted market risk premium derived  
4 from Value Line's average median price appreciation potential and average  
5 median expected dividend yield 3-5 years hence of 12.87% as well as the  
6 Ibbotson/Morningstar long-term historical arithmetic mean equity risk premium of  
7 6.70% as derived in Note 2 on page 2 of Schedule PMA-26.

8 **Q. WHAT WOULD MS. PRYLO'S CAPM RESULT HAVE BEEN HAD SHE ALSO**  
9 **UTILIZED IBBOTSON ASSOCIATES LONG-TERM HISTORICAL DATA, A**  
10 **FORECASTED MARKET EQUITY RISK, AS WELL AS A PROJECTED RISK-**  
11 **FREE RATE?**

12 A. On Schedule PMA-26, I have shown recalculated traditional and empirical CAPM  
13 calculations using the average forecasted risk-free rate as well as including the  
14 Merrill Lunch return on the market, the long-term Ibbotson/Morningstar historical  
15 information, a forecasted Value Line data and a forecasted risk-free rate. As can  
16 be seen, the traditional CAPM cost rate is 9.89% while that of the empirical, or  
17 zero-beta, CAPM is 10.40%, averaging 10.16%. These properly calculated  
18 CAPM cost rates also confirm that Ms. Prylo's unadjusted recommended ROE of  
19 8.60% is grossly understated by at least 156 basis points. In addition, even this  
20 corrected CAPM understates the cost of common equity for UWON because it  
21 does not reflect UWON's additional business risk due to its small size and  
22 financial risk due to the greater financial risk of Ms. Prylo's recommended capital  
23 structure ratios.

1    **Q.    DO YOU HAVE ANY FINAL COMMENTS ON MS. PRYLO'S COMMON**  
2    **EQUITY COST RATE RECOMMENDATION?**

3    A.    As discussed above, Ms. Prylo's common equity cost rate is significantly  
4    understated for several reasons. Correcting for these flaws results in a DCF cost  
5    rate of 11.61% and a CAPM cost rate of 10.16%. Using the 2 / 3 (DCF) / 1 / 3  
6    (CAPM) weighting Ms. Prylo used results in a common equity cost rate of  
7    11.13% ( $11.13\% = ((2/3 * 11.61\%) + (1/3 * 10.16\%))$ ). Using the more  
8    appropriate equal weighting of the DCF and CAPM results consistent with the  
9    EMH discussed previously results in a common equity cost rate of 10.89%.

10   **Q.    IS EITHER THE 2/3 / 1/3 OR THE EQUALLY WEIGHTED DCF AND CAPM**  
11   **RESULTS OF 11.13% AND 10.89%, RESPECTIVELY, ADEQUATE WHEN**  
12   **APPLIED TO UWON?**

13   A.    No. Cost rates of 11.13% and 10.89% are still understated and not applicable to  
14   UWON, because they do not reflect either the additional risk of UWON due to its  
15   smaller size relative to the thirty-one electric and water companies in Ms. Prylo's  
16   proxy group or the greater financial risk of Ms. Prylo's recommended capital  
17   structure. Adding the modest 0.40% (40 basis points) size premium discussed  
18   previously results in a business risk-adjusted common equity cost rate of 11.53%  
19   based upon Ms. Prylo's 2/3 (DCF) / 1/3 (CAPM) weighting and 11.29% based  
20   upon equally weighting the DCF and CAPM results applicable to UWON, which  
21   still does not reflect the greater financial risk of Ms. Prylo's recommended capital  
22   structure ratios. Using the previously discussed Hamada equation, Ms. Prylo's  
23   recommended capital structure ratios and the corrected traditional CAPM results



1 of 9.89% derived on Schedule PMA-26, a financial risk adjustment of 85 basis  
2 points (0.85%) is warranted. Adding 0.85% to the business risk-adjusted  
3 corrected common equity cost rate of 11.53% (2/3 / 1/3 weight) and 11.29%  
4 (equal weighting) results in business and financial risk adjusted 12.38% and  
5 12.14% common equity cost rates, respectively.

6 **Q. BASED ON THE ABOVE TESTIMONY, PLEASE SUMMARIZE YOUR VIEW**  
7 **OF MS. PRYLO'S CALCULATED COMMON EQUITY COST RATE.**

8 A. Ms. Prylo's recommended capital structure reflects financial risk which is so  
9 significantly higher than her proxy group that when her common equity cost rate  
10 is corrected for the flaws in her applications of the DCF and CAPM discussed  
11 above and adjusted for both business and financial risk, it is clearly not to the  
12 benefit of UWON's ratepayers.

13 **V. COMMENTS ON COMPANY PREPARED DIRECT TESTIMONY**

14 **Q. ON PAGE 73, LINE 7 20 OF HER PREPARED DIRECT TESTIMONY, MS.**  
15 **PRYLO CRITICIZES YOUR USE OF A PROXY GROUP CONSISTING OF**  
16 **ONLY SIX WATER COMPANIES. PLEASE COMMENT.**

17 A. I have previously discussed at length, in both this rebuttal testimony and my  
18 prepared direct testimony why it is appropriate to rely upon water companies as  
19 proxies for UWON and not a group which includes electric companies.  
20 Moreover, by expanding the source of growth rate projections to include Reuters  
21 security analysts' EPS growth rates, which are available for all six water  
22 companies, the proxy group is not "missing important forecasting information" as  
23 Ms. Prylo states on lines 11 and 12 on page 73. Furthermore, my use of median

1 results obviates her criticism on lines 18 through 20, that "individual results from  
2 any one company can heavily impact the results of the overall return" because  
3 the median does not "give undue weight to outliers on either the high or the low  
4 side" as stated at lines 18 and 19 on page 26 of my prepared direct testimony.

5 **Q. ALSO ON PAGE 73, LINE 21 THROUGH PAGE 74, LINE 6 OF HER**  
6 **PREPARED DIRECT TESTIMONY, MS. PRYLO CRITICIZES YOUR PROXY**  
7 **GROUP SELECTION CRITERIA FOR NOT INCLUDING WHETHER A**  
8 **COMPANY HAD AN INVESTMENT GRADE BOND OR CREDIT RATING.**  
9 **SHOULD YOU HAVE INCLUDED SUCH INFORMATION IN YOUR**  
10 **SELECTION CRITERIA?**

11 A. Whether or not a potential proxy company had an investment grade bond or  
12 credit rating is a moot point, since all of the water companies in my proxy group  
13 have investment grade bond / credit ratings. In addition, Ms. Prylo states earlier  
14 in her prepared direct testimony that "[t]t does not appear that she has employed  
15 any specific screening criteria to develop her proxy group beside that of just  
16 being a publicly traded water company." However, the selection criteria for my  
17 proxy group of water companies are explicitly detailed on page 16, lines 12  
18 through 22 of my prepared direct testimony.

19 **Q. ON PAGE 74, LINE 9 THROUGH PAGE 76, LINE 22 OF HER PREPARED**  
20 **DIRECT TESTIMONY, MS. PRYLO CRITICIZES YOUR USE OF BOTH THE**  
21 **SINGLE-STAGE DCF MODEL AND SECURITY ANALYSTS' EPS FIVE-YEAR**  
22 **GROWTH ESTIMATES IN YOUR DCF ANALYSIS. PLEASE COMMENT.**

1 A. I have previously discussed at length, in both this rebuttal testimony and my  
2 prepared direct testimony, that it is appropriate to use a single-stage, constant  
3 growth DCF model because of the maturity and stability of the utility industry as  
4 well as the superiority of using analysts' EPS five-year growth estimates in a  
5 DCF analysis. Therefore, I will not repeat that discussion again.

6 **Q. ON PAGE 77, LINE 23 THROUGH PAGE 79, LINE 9 OF HER PREPARED**  
7 **DIRECT TESTIMONY, MS. PRYLO CRITICIZES YOUR CALCULATION OF**  
8 **THE EQUITY RISK PREMIUM FOR YOUR CAPM ANALYSIS. PLEASE**  
9 **COMMENT.**

10 A. On page 79, lines 11 through 21, Ms. Prylo criticizes my use of the Ibbotson  
11 Associates long-term market equity risk premium from 1926-2009, claiming that  
12 "it does not reflect the current investing climate"; that I have not "produced any  
13 studies indicating why investors believe this information is relevant"; and, that the  
14 time period from 1926-2009 covered "periods much different than today,  
15 particularly given recent economic events." Ms. Prylo is incorrect on all three  
16 points. First, the cost of capital is a long-term concept. Second, consistent with  
17 the EMH, investors are aware of the Ibbotson Associates data. Third, returns and  
18 equity risk premiums over the time period 1926-2010 do cover periods similar to  
19 recent economic events. Fourth, I will discuss an empirical study which indicates  
20 that historical equity risk premiums over such long periods of time are indeed  
21 relevant to the investors required rate of return.

22 **Q. PLEASE DISCUSS THE LONG-TERM NATURE OF THE COST OF CAPITAL.**

1 A. The cost of capital is a long-term concept, because common stocks are  
2 outstanding in perpetuity. The DCF presumes an infinite investment horizon. In  
3 addition, the assets, i.e., rate bases, of regulated utilities are particularly long-  
4 lived, especially water utilities. Therefore, the arithmetic mean equity risk  
5 premium over a long horizon is entirely appropriate for cost of capital purposes  
6 as discussed in detail both previously in this rebuttal testimony and in my  
7 prepared direct testimony. My prepared direct testimony provides ample support  
8 for the use of the long-term equity risk premium as the estimate of the equity risk  
9 premium on page 30, line 2 through page 33 line 9 and in Schedule PMA-8<sup>31</sup>.  
10 While the estimate does depend upon the length of the data series studied, a  
11 long enough data series provides a reliable average "without being unduly  
12 influenced by very good and very poor short-term returns."<sup>32</sup> In addition, Ibbotson  
13 Associates note that "using a long series makes it less likely that the analyst can  
14 justify any number he or she wants."<sup>33</sup> As Ibbotson Associates further state:

15 Some analysts estimate the expected equity risk premium using a  
16 shorter, more recent time period on the basis that recent events are  
17 more likely to be repeated in the near future; furthermore, they  
18 believe that the 1920s, 1930s and 1940s contain too many unusual  
19 events. This view is suspect because all periods contain "unusual"  
20 events. Some of the most unusual events the last hundred years  
21 took place quite recently, including the inflation of the late 1970s  
22 and early 1980s, the October 1987 stock market crash, the collapse  
23 of the high-yield bond market, the major contraction and  
24 consolidation of the thrift industry, the collapse of the Soviet Union,  
25 the development of the European Economic Community, the  
26 attacks of September 11, 2001 and the more recent liquidity crisis  
27 of 2008 and 2009.  
28

<sup>31</sup> The excerpt from Ibbotson Associates SBBI – 2010 included in Schedule PMA-8 is also repeated in SBBI – 2011.

<sup>32</sup> SBBI - 2011 59.

<sup>33</sup> SBBI - 2011 59.

1 It is even difficult for economists to predict the economic  
2 environment of the future. For example, if one were analyzing the  
3 stock market in 1987 before the crash, it would be statistically  
4 improbable to predict the impending short-term volatility without  
5 considering the stock market crash and market volatility of the  
6 1929- 1931 period.  
7

8 Without an appreciation of the 1920s and 1930s, no one would  
9 believe that such events could happen. The 85-year period starting  
10 with 1926 is representative of what can happen: it includes high  
11 and low returns, volatile and quiet markets, war and peace, inflation  
12 and deflation, and prosperity and depression. Restricting attention  
13 to a shorter historical period underestimates the amount of change  
14 that could occur in a long future period. Finally, because historical  
15 event-types (not specific events) tend to repeat themselves, long-  
16 run capital market return studies can reveal a great deal about the  
17 future. Investors probably expect "unusual" events to occur from  
18 time to time, and their return expectations reflect this.  
19

20 **Q. ARE INVESTORS AWARE OF THE IBBOTSON ASSOCIATES LONG-TERM**  
21 **MARKET EQUITY RISK PREMIUM?**

22 A. Consistent with the EMH, which has also been discussed in detail in this rebuttal  
23 testimony as well as in my prepared direct testimony, investors are aware of the  
24 Ibbotson Associates long-term market equity risk premium data as well as the  
25 appropriateness of the use of such data for cost of capital purposes. Therefore,  
26 in my informed expert opinion, investors find the Ibbotson Associates long-term  
27 market equity risk premium highly relevant for cost of capital purposes.

28 **Q. DOES THE TIME PERIOD FROM 1926-2009 COVER "PERIODS MUCH**  
29 **DIFFERENT THAN TODAY, GIVEN RECENT ECONOMIC EVENTS?"**

30 A. No. As noted above and in my prepared direct testimony, the 1926-2009 period  
31 covered periods of both economic stability and economic volatility. Without an  
32 appreciation of the various types of events that occurred during the period and

1        their rate of return effects, it is impossible to assess investors' expectations of  
2        what kinds of economic could occur or assess their return expectations.

3        **Q.    YOU PREVIOUSLY STATED THAT YOU WOULD DISCUSS AN EMPIRICAL**  
4        **STUDY WHICH INDICATES THAT HISTORICAL EQUITY RISK PREMIUMS**  
5        **OVER SUCH LONG PERIODS OF TIME ARE INDEED RELEVANT TO THE**  
6        **INVESTORS REQUIRED RATE OF RETURN. PLEASE COMMENT.**

7        A.    As noted on the final page Appendix A to my prepared direct testimony, Frank J.  
8        Hanley (AUS Consultants), Professor Richard A. Michelfelder, Ph.D. (Rutgers  
9        University) and myself have co-authored a paper entitled "New Approach to  
10       Estimating the Cost of Common Equity Capital for Public Utilities" which is now  
11       forthcoming in The Journal of Regulatory Economics. The purpose of the paper  
12       was to present, empirically test and apply a recently developed general  
13       consumption-based asset pricing model that estimates the risk-return relationship  
14       directly from asset pricing data and when estimated with recently developed time  
15       series methods, produces a prediction of the equity risk premium that is driven by  
16       its predicted volatility. The time series methods used were developed by  
17       Professor Robert F. Engle, III, Ph.D. (Stern School of Business – New York  
18       University) who shared the Nobel Prize in Economics in 2003 for his work. Engle  
19       discovered that volatility changes over time and is related from one period to the  
20       next. Using his time series method, we developed a financial model, i.e., the  
21       Predictive Risk Premium Model (PRPM™) which predicts equity risk premiums  
22       based upon historical equity risk premiums. We estimated the PRPM™ over  
23       rolling 24-month periods ending December 2008 for 5, 10, 15, 20, and 70 year

1 periods. We then calculated predicted equity risk premiums using the average  
2 predicted variances (volatility) and the spot (last observation) variance. Table 3 of  
3 the article which is contained in Schedule PMA-27 presents the mean predicted  
4 risk premiums, the range of predicted premiums and the standard deviations for  
5 each time period. It is clear that the risk premiums are more stable over the  
6 rolling 24-month periods when calculated using the average predicted variances  
7 over the entire time period compared with using the last observation. It is also  
8 clear that the longer the time periods, i.e. 20 and 79 years, the substantially more  
9 stable and reasonable the equity risk premiums are than over the shorter 5-year  
10 time period. Hence, the study supports the use of the long-term historical  
11 arithmetic mean equity risk premium published by Ibbotson Associates.

12 **Q. ON PAGE 79, LINE 12 THROUGH PAGE 80, LINE 8, OF HER PREPARED**  
13 **DIRECT TESTIMONY, MS. PRYLO CRITICIZES YOUR USE OF THE YIELD**  
14 **ON 30-YEAR U.S. TREASURY SECURITIES IN YOUR CAPM ANALYSES.**  
15 **PLEASE COMMENT**

16 A. My prepared direct testimony at page 39, lines 13 through 20 is clear that the  
17 yield on 30-year U.S. Treasury Securities is appropriate for use in CAPM  
18 analyses because its term is consistent with the long-term cost of capital  
19 discussed previously, specifically, the long-term cost of capital to public utilities  
20 as measured by the yields on A rated public utility bonds, the long-term  
21 investment horizon inherent in utilities' common stocks, the long-term investment  
22 horizon presumed in the standard DCF model employed in regulatory  
23 ratemaking, as well as the long-term life of the jurisdictional rate base to which

1 the allowed fair rate of return, i.e., the cost of capital will be applied. In addition,  
2 SBBI – 2011 states<sup>34</sup>:

3 Although the equity risk premia of several horizons are available,  
4 the long-horizon equity risk premium is preferable for use in most  
5 business-valuation settings, even if an investor has a shorter time  
6 horizon. Companies are entities that generally have no defined life  
7 span; when determining a company's value, it is important to use a  
8 long-term discount rate because the life of the company is assumed  
9 to be infinite. For this reasons, it is appropriate in most cases to  
10 use the long-horizon equity risk premium for business valuation

11 \* \* \*

12  
13  
14 Our methodology for estimating the long-horizon equity risk  
15 premium makes use of the income return on a 20-year Treasury  
16 bond; however, the Treasury currently does not issue 20-year  
17 bond. *The 30-year bond that the Treasury recently began issuing*  
18 *again is theoretically more correct due to the long-term nature of*  
19 *business valuation*, yet Ibbotson Associates instead creates a  
20 series of returns using bonds on the market with approximately 20  
21 years to maturity. The reason for the use of a 20-year maturity  
22 bond is that 30-year Treasury securities have only been issued  
23 over the relatively recent past, starting in February of 1977 and  
24 were not issued at all through the early 2000s. (italics added)  
25

26 **Q. ON PAGE 80, LINE 22 THROUGH PAGE 81, LINE 9 OF HER PREPARED**  
27 **DIRECT TESTIMONY, MS. PRYLO CRITICIZES YOUR APPLICATION OF THE**  
28 **RPM BY CITING AS HER "PRIMARY CONCERN" YOUR USE OF AN**  
29 **EXPECTED BOND YIELD ON MOODY'S A RATED PUBLIC UTILITY BONDS,**  
30 **NOTWITHSTANDING THE FACT THAT FOR THE WATER PROXY GROUP,**  
31 **ONLY ONE COMPANY HAS A MOODY'S BOND RATING. WAS YOUR USE**  
32 **OF THIS EXPECTED BOND YIELD APPROPRIATE?**

33 **A.** Yes. It is entirely appropriate to utilize the expected yield on Moody's A rated  
34 public utility bonds in a RPM analysis for the water proxy group. Although only



1 one company has a Moody's A bond rating, it is reasonable to assume that the  
2 average bond rating for the group would be a Moody's A bond rating, given that  
3 the average S&P bond rating for the group, all of which are rated by S&P, is A+  
4 and average S&P credit rating for the group is A as shown on page 2 of  
5 Schedule PMA-7 of Exhibit No. \_\_\_\_ . Hence, her "concern" is without merit and  
6 should be rejected.

7 **Q. ON PAGE 81, LINES 13 THROUGH 24 OF HER PREPARED DIRECT**  
8 **TESTIMONY, MS. PRYLO CRITICIZES YOUR USE OF THE S&P PUBLIC**  
9 **UTILITY INDEX RELATIVE TO MOODY'S AVERAGE BOND YIELDS OVER**  
10 **THE 1928-2009 PERIOD. IS THIS CRITICISM WARRANTED?**

11 A. No. Ms. Prylo's criticism is that I have provided "no studies or analyses to  
12 determine the extent to which UWON is more or less risky than the average utility  
13 contained in *S&P's Public Utility Index* and *Moody's Public Utility Bond Average*".  
14 First, it is not necessary to compare the risk of UWON to the S&P Public Utility  
15 Index or Moody's Public Utility Bond Average, as the RPM analysis is relative to  
16 the proxy group which was selected as a proxy for UWON. Nevertheless, as  
17 shown on Schedule PMA-28, the average Moody's and S&P bond ratings of the  
18 S&P Public Utility Index are currently "A3" only one notch lower than that of the  
19 proxy group, and hence, by reference, UWON and the average S&P bond rating  
20 is "A", again only one notch lower than that of the proxy group, and hence, by  
21 reference, UWON.

22 **Q. ON PAGE 82 AT LINES 1 THROUGH 17 OF HER PREPARED DIRECT**  
23 **TESTIMONY, MS. PRYLO STATES THAT "THE COMMISSION HAS**

1 SPECIFICALLY REJECTED THE USE OF A RISK PREMIUM APPROACH IN  
2 THE PAST . . . 'BECAUSE IT REFLECTS ALLOWED RETURNS WHICH  
3 ARE AN INFERIOR ALTERNATIVE'." PLEASE COMMENT.

4 A. These comments are not applicable to my RPM analysis because both of the  
5 historical equity risk premiums used in my analysis are based upon holding  
6 period stock market returns and not allowed returns. Therefore, Ms. Prylo's  
7 comments are completely irrelevant.

8 Q. ON PAGE 83, LINE 10 THROUGH PAGE 84, LINE 16 OF HER PREPARED  
9 DIRECT TESTIMONY, MS. PRYLO CRITICIZES YOUR CEM ANALYSIS,  
10 SPECIFICALLY AT LINES 13 THROUGH 16 OF PAGE 63, WHERE SHE  
11 STATES: "USING NON-UTILITY RETURNS TO COMPUTE A RETURN FOR A  
12 100% REGULATED, LOW-RISK WATER UTILITY WITH NO DIRECT  
13 COMPETITION IS NOT A METHOD THAT WILL PRODUCE A RELIABLE  
14 ROE." DO YOU AGREE WITH THIS CRITICISM OF YOUR METHODOLOGY?

15 A. No. Ms. Prylo's criticisms are without merit. First, as discussed on page 43, line  
16 25 through page 45, line 21 of my prepared direct testimony, the CEM is derived  
17 from the "corresponding risk" standard of the landmark cases of the U.S.  
18 Supreme Court. Therefore, it is consistent with the Hope doctrine that the return  
19 to the equity investor should be commensurate with returns on investments in  
20 other firms having corresponding risks. It is based upon the fundamental  
21 economic concept of opportunity cost which maintains that the true cost of an  
22 investment is equal to the cost of the best available alternative use of the funds  
23 to be invested. This concept is recognized by Ms. Prylo herself when she notes

1 the "[t]he fair rate of return, therefore, allows the utility to recover its prudently  
2 incurred costs of debt, hybrid securities and preferred stock, while providing its  
3 common equity investors the opportunity to earn a return that is commensurate  
4 with the risk of their investment," on page 7, lines 10 through 16 of her prepared  
5 direct testimony. Thus, the CEM is consistent with one of the fundamental  
6 principles upon which regulation rests: that regulation is intended to act as a  
7 surrogate for competition and to provide a fair rate of return to investors.

8 Morin<sup>35</sup> states (see page 3 of Schedule PMA-29):

9 The Comparable Earnings standard has a long and rich history in  
10 regulatory proceedings, and finds its origins in the fair return doctrine  
11 enunciated by the U.S. Supreme Court in the landmark *Hope* case.  
12 The governing principle for setting a fair return decreed in *Hope* is  
13 that the allowable return on equity should be commensurate with  
14 returns on investments in other firms having comparable risks, and  
15 that the allowed return should be sufficient to assure confidence in  
16 the financial integrity of the firm, in order to maintain  
17 creditworthiness and ability to attract capital on reasonable terms.  
18 Two distinct standards emerge from this basic premise: a standard  
19 of Capital Attraction and a standard of Comparable Earnings. The  
20 Capital Attraction standard focuses on investors' return  
21 requirements, and is applied through market value methods  
22 described in prior chapters, such as DCF, CAPM, or Risk Premium.  
23 The Comparable Earnings standard uses the return earned on  
24 book equity investment by enterprises of comparable risks as the  
25 measure of fair return.

26  
27 Morin concludes on page 394 (page 16 of Schedule PMA-29):

28  
29 More fundamentally, the basic premise of the Comparable Earnings  
30 approach is that regulation should emulate the competitive result. It  
31 is not clear from this premise which is the proper level of  
32 competition being referenced. Is the norm the perfect competition  
33 model of economics where no monopolistic elements exist, or is it  
34 the degree of competition actually prevailing in the economy? A  
35 strong case for the latter can be made of grounds of fairness alone.  
36

1 Although the Comparable Earnings test does not square well with  
2 economic theory, the approach is nevertheless meritorious. If the  
3 basic purpose of comparable earnings is to set a fair return rather  
4 than determine the true economic return, then the argument is  
5 academic. If regulators consider a fair return as one that equals the  
6 book rates of return earned by comparable-risk firms rather than  
7 one that is equal to the cost of capital of such firms, the  
8 Comparable Earnings test is relevant. This notion of fairness,  
9 rooted in the traditional legalistic interpretation of the *Hope*  
10 language, validates the Comparable Earnings.

11  
12 Second, the selection criteria utilized to select the non-price regulated  
13 firms in my application of the CEM reflect the total risk, i.e., systematic and  
14 unsystematic risks, of both of my proxy groups. As discussed in my prepared  
15 direct testimony and in Schedule PMA-30, a copy of "Comparable Earnings:  
16 New Life for an Old Precept", co-authored by Frank J. Hanley and myself, Value  
17 Line betas were used as a measure of each firm's unsystematic or specific risk,  
18 and the standard error of the regression reflects the extent to which events  
19 specific to a company's operations will affect its stock price. Therefore, it is a  
20 measure of diversifiable or unsystematic, company-specific risk. In essence,  
21 companies which have similar betas and standard errors of the regressions, have  
22 similar investment risk, i.e., the sum of systematic (market) risk as reflected by  
23 beta and unsystematic (business and financial) risk, as reflected by the standard  
24 error of the regression, respectively. Those statistics are derived from regression  
25 analyses using market prices which, under the EMH, previously discussed,  
26 reflect all relevant risks. The application of these criteria thus results in a proxy  
27 group of non-price regulated firms similar in risk to the average company in the  
28 proxy group of six water companies. Therefore, Ms. Prylo's criticisms of my CEM  
29 analysis are misplaced.

1 Q. ON PAGE 84, LINE 19 THROUGH PAGE 85, OF HER PREPARED DIRECT  
2 TESTIMONY, MS. PRYLO VOICES HER CONCERNS REGARDING YOUR  
3 BUSINESS RISK ADJUSTMENT TO REFLECT UWON'S SMALLER SIZE  
4 RELATIVE TO THE AVERAGE SIZE OF YOUR TWO PROXY GROUPS,  
5 SAYING THAT "THIS IS A DISINGENUOUS ARGUMENT AS UWON IS A  
6 SUBSIDIARY OF A LARGE PUBLICLY TRADED COMPANY, SuezE." IS  
7 YOUR BUSINESS RISK ADJUSTMENT APPROPRIATE?

8 A. Yes. Ms. Prylo's concern is unfounded and her use of the word disingenuous,  
9 which means not straightforward or candid, insincere or calculating, unaware or  
10 uninformed, is misplaced. As stated previously in my prepared direct testimony  
11 at page 12, line 1 through page 13, line 9, page 49, line 31, through page 51, line  
12 13 as well as discussed previously in this rebuttal testimony, it is clear that there  
13 is both academic and empirical support that size is a risk factor which must be  
14 considered when determining common equity cost rate, all else equal. In  
15 addition, pages 3 through 15 of Schedule PMA-21 provide the empirical support  
16 from Ibbotson Associates' size premium study.

17 Also, as demonstrated previously in this rebuttal testimony, it is the risk of  
18 UWON's operating assets which gives rise to its investment risk and not that of  
19 the provider of its capital, UWW, consistent with the basic financial principle that  
20 it is the use of the capital which determines the risk of the asset where the capital  
21 is invested and not the source of that capital. In my opinion, Ms. Prylo's  
22 comments relative to UWON being a subsidiary of SuezE as a rationale for not  
23 making a size adjustment are disingenuous given her agreement that the fair rate

1 of return is one which provides "common equity investors the opportunity to earn  
2 a return that is commensurate with the risk of their investment." (see page 7,  
3 lines 10 through 16 of her prepared direct testimony) and her statement relative  
4 to the definition of business risk at lines 12 through 14 on page 19 of her  
5 prepared direct testimony that "[s]ize is also factored into the equation because a  
6 smaller company implies less diversification and less financial flexibility."

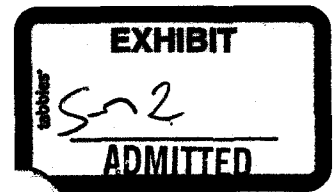
7 Moreover, as demonstrated previously in this rebuttal testimony, while  
8 UWON is in indirect subsidiary of SuezE, it does not receive any of its capital  
9 from SuezE. As also demonstrated previously, UWON's position as an "indirect"  
10 subsidiary "of a large publicly-traded company", SuezE, as Ms. Prylo states on  
11 page 84, line 24 through page 85, line 1 of her prepared direct testimony, is  
12 irrelevant to the determination of the cost of common equity for UWON. The cost  
13 of common equity and the authorized rate of return on common equity based  
14 thereon must reflect the risks which the shareholder / shareholders in the  
15 regulated utility bear and require in order to invest in that utility, in this case  
16 UWON. One of those risks is that of small size as previously discussed above.  
17 Ms. Prylo ignores her own statements that risk adjustments are based upon the  
18 fundamental concept that the return requirements of common equity investors  
19 are commensurate with the riskiness of their investment, i.e., that the use of the  
20 funds, and not the source of those funds, and that size is a factor of business  
21 risk, gives rise to risk and the risk-appropriate rate of return.

22 To reiterate, it is the rate base of UWON, and UWON alone, to which the  
23 overall rate of return set in this proceeding will be applied. Hence, UWON should

1 be evaluated as a stand alone utility. To do otherwise would be as discriminatory  
2 and confiscatory as double leverage. Hence, UWON must be viewed on its own  
3 merits, regardless of the source of its equity capital, i.e., its direct parent, UWW  
4 or its indirect "grandparents" or "great grandparents", UWR, UWI, or SuezE.  
5 Therefore, the specific risk of investment in UWON, including its small size as  
6 discussed previously, and the greater financial risk of Ms. Prylo's recommended  
7 capital structure ratios if adopted, relative to the proxy companies utilized to  
8 estimate the cost rate of common equity capital by both Ms. Prylo and myself in  
9 this proceeding, is most important in order to establish an appropriate common  
10 equity cost rate.

11 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

12 **A.** Yes.



BEFORE THE ARIZONA CORPORATION COMMISSION

BOB STUMP  
Chairman  
GARY PIERCE  
Commissioner  
BRENDA BURNS  
Commissioner  
SUSAN BITTER SMITH  
Commissioner  
BOB BURNS  
Commissioner

IN THE MATTER OF THE APPLICATION OF ) DOCKET NO. W-02113A-13-0118  
CHAPARRAL CITY WATER COMPANY FOR )  
A DETERMINATION OF THE CURRENT FAIR )  
VALUE OF ITS UTILITY PLANT AND )  
PROPERTY AND FOR INCREASES IN ITS )  
RATES AND CHARGES BASED THEREON. )

DIRECT  
TESTIMONY  
OF  
JOHN A. CASSIDY  
PUBLIC UTILITIES ANALYST  
UTILITIES DIVISION  
ARIZONA CORPORATION COMMISSION

DECEMBER 18, 2013



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**EXECUTIVE SUMMARY  
CHAPARRAL CITY WATER COMPANY  
DOCKET NO. W-02113A-13-0118**

The direct testimony of Staff witness John A. Cassidy addresses the following issues:

Capital Structure – Staff recommends that the Commission adopt a hypothetical capital structure for Chaparral City Water Company (“Company”) for this proceeding consisting of 40.0 percent debt and 60.0 percent equity.

Cost of Equity – Staff recommends that the Commission adopt a 9.3 percent return on equity (“ROE”) for the Company. Staff’s estimated ROE for the Company is based on the 8.7 percent average of its discounted cash flow method (“DCF”) cost of equity methodology estimates for the sample companies of 8.1 percent for the constant-growth DCF model and 9.3 percent for the multi-stage DCF model. Staff’s recommended ROE includes an upward economic assessment adjustment of 60 basis points (0.6 percent).

Cost of Debt – Staff recommends that the Commission adopt a 5.9 percent cost of debt for the Company.

Overall Rate of Return – Staff recommends that the Commission adopt a 8.0 percent overall rate of return.

Ms. Ahern’s Testimony – The Commission should reject the Company’s proposed 11.05 percent ROE for the following reasons:

Ms. Ahern’s single-stage constant growth DCF estimates rely exclusively on analysts’ forecasts of earnings per share growth to calculate the dividend growth (g) component. Ms. Ahern overstates the current dividend yield ( $D_0/P_0$ ) component by using a 60-day average stock price ( $P_0$ ) value, and she inflates the expected dividend yield ( $D_1/P_0$ ) component by means of semi-annual compounding. Ms. Ahern’s risk-premium model cost of equity estimates derived from the CAPM, ECAPM and PRPM models are inflated due to the use of a risk-free ( $R_f$ ) rate calculated as an average of historical measures and forecasted estimates of the 30-year U.S. Treasury yield. Ms. Ahern’s indicated cost of common equity before adjustments for risk is based upon estimates derived from her DCF (8.84 percent), RPM (11.04 percent) and CAPM (10.75 percent) estimation methodologies; however, her 10.48 percent indicated cost of equity exceeds the arithmetic mean of the results obtained from her models and, thus, appears to be overstated. Ms. Ahern’s recommended cost of equity includes an upward 18 basis point credit risk adjustment and an upward 40 basis point business risk adjustment.

1     **I.     INTRODUCTION**

2     **Q.     Please state your name, occupation, and business address.**

3     A.     My name is John A. Cassidy. I am a Public Utilities Analyst employed by the Arizona  
4           Corporation Commission ("Commission") in the Utilities Division ("Staff"). My business  
5           address is 1200 West Washington Street, Phoenix, Arizona 85007.

6  
7     **Q.     Briefly describe your responsibilities as a Public Utilities Analyst.**

8     A.     I am responsible for the examination of financial and statistical information included in  
9           utility rate applications and other financial matters, including studies to estimate the cost  
10          of capital component in rate filings used to determine the overall revenue requirement, and  
11          for preparing written reports, testimonies and schedules to present Staff's  
12          recommendations to the Commission on these matters.

13  
14    **Q.     Please describe your educational background and professional experience.**

15    A.     I hold a Bachelor of Arts degree in History from Arizona State University, a Master of  
16          Library Science degree from the University of Arizona, and a Master of Business  
17          Administration degree with an emphasis in Finance from Arizona State University. While  
18          pursuing my MBA degree, I was inducted into Beta Gamma Sigma, the National Business  
19          Honor Society. I have passed the CPA exam, but opted not to pursue certification. I have  
20          worked professionally as a librarian, financial consultant and tax auditor and served as  
21          Staff's cost of capital witness in rate case evidentiary proceedings in my current as well as  
22          in a past tenure as a Commission employee.

23  
24    **Q.     What is the scope of your testimony in this case?**

25    A.     My testimony provides Staff's recommended capital structure, return on equity ("ROE")  
26          and overall rate of return ("ROR") for establishing the revenue requirements for Chaparral

1 City Water Company ("CCWC" or "Company") in the Company's pending water rate  
2 application.

3  
4 **Q. Please provide a brief description of CCWC.**

5 A. CCWC is an Arizona public service corporation engaged in providing water utility  
6 services in portions of Maricopa County, Arizona, pursuant to certificates of convenience  
7 and necessity granted by the Arizona Corporation Commission ("Commission"). CCWC  
8 is a wholly-owned subsidiary of EPCOR Water (USA) Inc. ("EWUS"). During the test  
9 year ending December 31, 2012, the Company served approximately 13,500 water  
10 connections.

11  
12 *Summary of Testimony and Recommendations*

13 **Q. Briefly summarize how Staff's cost of capital testimony is organized.**

14 A. Staff's cost of capital testimony is presented in ten sections. Section I is this introduction.  
15 Section II discusses the concept of weighted average cost of capital ("WACC"). Section  
16 III presents the concept of capital structure and presents Staff's recommended capital  
17 structure for CCWC in this proceeding. Section IV presents Staff's cost of debt for  
18 CCWC. Section V discusses the concepts of ROE and risk. Section VI presents the  
19 methods employed by Staff to estimate CCWC's ROE. Section VII presents the findings  
20 of Staff's ROE analysis. Section VIII presents Staff's final cost of equity estimates for  
21 CCWC. Section IX presents Staff's ROR recommendation. Finally, Section X presents  
22 Staff's comments on the direct testimony of the Company's witness, Ms. Pauline M.  
23 Ahern.

1 **Q. Have you prepared any exhibits to accompany your testimony?**

2 A. Yes. I prepared nine schedules (JAC-1 to JAC-9) which support Staff's cost of capital  
3 analysis. Additionally, Staff has included one exhibit (JAC-A).  
4

5 **Q. What is Staff's recommended rate of return for CCWC?**

6 A. Staff recommends an 8.0 percent overall ROR, as shown in Schedule JAC-1. Staff's ROR  
7 recommendation is based on the following: (1) a hypothetical capital structure composed  
8 of 40.0 percent debt and 60.0 percent equity; (2) a cost of equity of 9.3 percent, calculated  
9 as the simple average of the two cost of equity estimates for the sample companies derived  
10 from Staff's discounted cash flow ("DCF") estimation methodologies (8.1 percent from  
11 Staff's constant growth DCF model and 9.3 percent from Staff's multi-stage DCF model),  
12 plus the adoption of a 60 basis point upward economic assessment adjustment; and (3) a  
13 cost of debt of 5.9 percent.  
14

15 Staff continues to develop and analyze the indicated cost of equity estimates derived from  
16 the two capital asset pricing model ("CAPM") estimation methodologies historically  
17 considered and relied upon by Staff. However, at the present time Staff is recommending  
18 that the Commission de-emphasize the CAPM driven results due to the continuing  
19 divergence of the CAPM-indicated cost of equity results relative to those derived by the  
20 DCF model.  
21

22 **Q. Mr. Cassidy, briefly explain why the cost of equity estimates derived from the CAPM**  
23 **have become problematic in today's economic environment.**

24 A. In an effort to recover from the economic recession of 2008, the United States Federal  
25 Reserve ("The Fed") initiated a monetary policy intended to stimulate economic growth  
26 and reduce unemployment by keeping the federal funds rate at a level between 0 to ¼

1 percent.<sup>1</sup> The federal funds rate is the central bank's key tool to spur the economy and a  
2 low rate is thought to encourage spending by making it cheaper to borrow money on a  
3 short-term basis. In addition, in an effort to put downward pressure on longer-term  
4 interest rates, the Fed initiated a policy of quantitative easing<sup>2</sup> wherein the U.S. central  
5 bank would purchase agency mortgage-backed securities by reinvesting the principal  
6 payments from its holdings of agency debt and agency mortgage-backed securities, and of  
7 rolling over maturing Treasury securities at auction.<sup>3</sup> As a consequence, the low interest  
8 rate environment engineered by the Fed has compelled investors to seek out higher yields  
9 on investment wherever they may be found, resulting in the equity markets having  
10 recently achieved new all-time highs<sup>4</sup> and forecasted dividend yields falling to new lows.<sup>5</sup>  
11 At present, these factors, in combination with one another, have led to abnormally low  
12 cost of equity estimates being obtained from the CAPM model. Accordingly, in Staff's  
13 judgment the cost of equity estimates derived from the CAPM should not be given their  
14 traditional weighting for purposes of setting rates until such time that market conditions  
15 change.  
16

---

<sup>1</sup> The federal funds rate is the interest rate charged to banks by the Fed for overnight transfers of funds.

<sup>2</sup> Quantitative easing is an unconventional monetary policy in which a central bank purchases government securities or other securities from the market in order to lower interest rates and increase the money supply. Quantitative easing increases the money supply by flooding financial institutions with capital in an effort to promote increased lending and liquidity. Quantitative easing is considered when short-term interest rates are at or approaching zero, and does not involve the printing of new banknotes.

<sup>3</sup> At present, the Fed purchases \$40 billion of agency mortgage-backed securities per month and \$45 billion of longer-term Treasury securities per month. (<http://www.federalreserve.gov/newsevents/press/monetary/20131030a.htm>)

<sup>4</sup> The Dow Jones Industrial Average closed above 16,000 for the first time ever on November 27, 2013 (16,097.33), and reached an all-time intra-day high of 16,174.51 on November 29, 2013. Similarly, the S&P 500 Index reached a new all-time closing high of 1,808.37 on December 9, 2013.

<sup>5</sup> As reported in the *Value Line Investment Survey, Summary & Index*, the median estimated dividend yield (next 12 months) of all dividend paying stocks under its review fell to 2.0 percent on November 1, 2013, and continues to remain at that level (i.e. through the most recent December 13, 2013 issue).

*CCWC's Proposed Overall Rate of Return*

**Q. Briefly summarize CCWC's proposed capital structure, cost of debt, ROE and overall ROR for this proceeding.**

**A. Table 1 summarizes the Company's proposed capital structure, cost of debt, ROE and overall ROR in this proceeding:**

**Table 1**

	<b>Weight</b>	<b>Cost</b>	<b>Weighted Cost</b>
Long-term Debt	16.60%	5.97%	0.99%
Common Equity	83.40%	11.05%	<u>9.22%</u>
<b>Cost of Capital/ROR</b>			<b>10.21%</b>

CCWC is proposing an overall rate of return of 10.21 percent.<sup>6</sup>

**II. THE WEIGHTED AVERAGE COST OF CAPITAL**

**Q. Briefly explain the cost of capital concept.**

**A. The cost of capital is the opportunity cost of choosing one investment over others with equivalent risk. In other words, the cost of capital is the return that stakeholders expect for investing their financial resources in a determined business venture over another business venture.**

**Q. What is the overall cost of capital?**

**A. The cost of capital to a company issuing a variety of securities (i.e., stock and indebtedness) is an average of the cost rates on all issued securities adjusted to reflect the**

<sup>6</sup> CCWC's proposed 10.21 percent ROR is calculated based upon the Company's projected year-end capital structure rather than CCWC's actual December 31, 2012 test-year end capital structure (See Company Schedule D-1).



1 relative amounts for each security in the company's entire capital structure. Thus, the  
2 overall cost of capital is the WACC.

3  
4 **Q. How is the WACC calculated?**

5 A. The WACC is calculated by adding the weighted expected returns of a firm's securities.  
6 The WACC formula is:

7 Equation 1.

8  
9 
$$\text{WACC} = \sum_{i=1}^n W_i * r_i$$
  
10

11 In this equation,  $W_i$  is the weight given to the  $i^{\text{th}}$  security (the proportion of the  $i^{\text{th}}$  security  
12 relative to the portfolio) and  $r_i$  is the expected return on the  $i^{\text{th}}$  security.

13  
14 **Q. Can you provide an example demonstrating application of Equation 1?**

15 A. Yes. For this example, assume that an entity has a capital structure composed of 60  
16 percent debt and 40 percent equity. Also, assume that the embedded cost of debt is 6.0  
17 percent and the expected return on equity, i.e., the cost of equity, is 10.5 percent.  
18 Calculation of the WACC is as follows:

19 
$$\text{WACC} = (60\% * 6.0\%) + (40\% * 10.5\%)$$

20 
$$\text{WACC} = 3.60\% + 4.20\%$$

21 
$$\text{WACC} = 7.80\%$$
  
22

23 The weighted average cost of capital in this example is 7.80 percent. The entity in this  
24 example would need to earn an overall rate of return of 7.80 percent to cover its cost of  
25 capital.  
26

**III. CAPITAL STRUCTURE**

*Background*

**Q. Please explain the capital structure concept.**

**A.** The capital structure of a firm is the relative proportions of each type of security:--short-term debt, long-term debt (including capital leases), preferred stock and common stock--that are used to finance the firm's assets.

**Q. How is the capital structure expressed?**

**A.** The capital structure of a company is expressed as the percentage of each component of the capital structure (capital leases, short-term debt, long-term debt, preferred stock and common stock) relative to the entire capital structure.

As an example, the capital structure for an entity that is financed by \$20,000 of short-term debt, \$85,000 of long-term debt (including capital leases), \$15,000 of preferred stock and \$80,000 of common stock is shown in Table 2.

**Table 2**

Component			%
Short-Term Debt	\$20,000	(\$20,000/\$200,000)	10.0%
Long-Term Debt	\$85,000	(\$85,000/\$200,000)	42.5%
Preferred Stock	\$15,000	(\$15,000/\$200,000)	7.5%
Common Stock	\$80,000	(\$80,000/\$200,000)	40.0%
Total	\$200,000		100%

The capital structure in this example is composed of 10.0 percent short-term debt, 42.5 percent long-term debt, 7.5 percent preferred stock and 40.0 percent common stock.

1 *CCWC's Capital Structure*

2 **Q. What capital structure does CCWC propose?**

3 A. The Company proposes a capital structure composed of 16.60 percent debt and 83.40  
4 percent common equity. CCWC's proposed capital structure is based upon the  
5 Company's August 31, 2013 projected capital structure<sup>7</sup>, not CCWC's actual capital  
6 structure as of the test year ending December 31, 2012.

7  
8 **Q. How does CCWC's proposed capital structure compare to the capital structures of**  
9 **publicly-traded water utilities?**

10 A. Schedule JAC-4 shows the capital structures of seven publicly-traded water companies  
11 ("sample water companies" or "sample water utilities") as of December 2012. The  
12 average capital structure for the sample water utilities is comprised of approximately 50.3  
13 percent debt and 49.7 percent equity.

14  
15 *Staff's Capital Structure*

16 **Q. What is Staff's recommended capital structure for CCWC?**

17 A. Staff recommends a hypothetical capital structure composed of 40.0 percent debt and 60.0  
18 percent equity. Staff's recommended hypothetical capital structure gives recognition to  
19 the Company's actual cost of long-term debt as of the December 31, 2012, test-year end,  
20 but excludes the cost associated with the \$135,057 of short-term debt.<sup>8</sup>

21  
<sup>7</sup> See Ahern Direct, p. 5, lines 2-3.

<sup>8</sup> As reported in Company Schedule D-2, this \$135,057 short-term debt obligation represented an intercompany payable having a cost of 0.72%. Staff elected to exclude this cost, for as shown in Company Schedule D-1 the \$135,057 short-term debt obligation was to be paid off prior to August 31, 2013, as it is not reported as a component of the cost of debt in the Company's projected capital structure.

1 **Q. What is the Company's December 31, 2012, test-year end capital structure, exclusive**  
2 **of the above referenced \$135,057 short-term debt?**

3 A. As shown in Schedule D-1, as of December 31, 2012, CCWC's capital structure consisted  
4 of \$4,935,000 of long-term debt (17.68%), \$135,057 of short-term debt (0.48%), and  
5 \$22,837,590 of stockholders' equity (81.83%). Thus, exclusive of the short-term debt  
6 component, CCWC's actual December 31, 2012, test-year end capital structure consisted  
7 of 17.8 percent debt (\$4,935,000) and 82.2 percent equity (\$22,837,590).

8  
9 **Q. Why is Staff recommending adoption of a hypothetical capital structure for CCWC**  
10 **in this proceeding rather than the Company's actual test-year end capital structure?**

11 A. Staff recommends a hypothetical capital structure of 40.0 percent debt and 60.0 percent  
12 equity to give recognition to CCWC's reduced exposure to financial risk relative to Staff's  
13 proxy group of companies. As noted earlier, the sample average capital structure consists  
14 of 50.3 percent debt and 49.7 percent equity, whereas CCWC's December 31, 2012, test-  
15 year end capital structure is equity-rich, consisting of 17.8 percent debt and 82.2 percent  
16 equity. Therefore, because Staff's proxy group of companies is more highly leveraged  
17 than CCWC (i.e. the debt component in the capital structure is higher), CCWC has *less*  
18 exposure to financial risk than do the sample companies and, thus, a lower cost of equity.  
19 Staff's hypothetical 40.0 percent debt and 60.0 percent equity capital structure gives  
20 recognition to this circumstance, and encourages CCWC to move towards a more  
21 balanced capital structure going forward.

22  
23 **Q. Why is it beneficial for a regulated public utility to have a balanced capital**  
24 **structure?**

25 A. Regulated public utilities are capital intensive, requiring significant investments of both  
26 debt and equity capital to fund a regulated entity's assets and rate base. Furthermore,

1 because the cost of debt capital is less than the cost of equity capital, the capital budgeting  
2 decision becomes an important managerial consideration, as the regulatory compact  
3 allows for regulated public utilities to recover, in rates, the cost of providing service to  
4 ratepayers. Accordingly, a capital structure composed of a disproportionately high level  
5 of equity capital will result in higher rates being charged to customers, whereas a more  
6 balanced capital structure will allow a regulated utility to provide the same level of service  
7 to customers but at a lower overall cost to ratepayers. Conversely, a capital structure  
8 composed of a disproportionately high level of debt capital should be avoided, as it  
9 subjects a utility to greater exposure to financial risk. For a Class "A" utility such as  
10 CWCC, Staff considers a balanced, economic capital structure to be one in which the debt  
11 component lies within a range of 40 percent to 60 percent.

12  
13 **IV. COST OF DEBT**

14 **Q. What is the cost of debt proposed by the Company in this proceeding?**

15 **A.** As shown in Company Schedule D-1, CCWC proposes a cost of debt of 5.97 percent.

16  
17 **Q. Isn't it true that subsequent to filing its rate application, CCWC also filed a**  
18 **financing application, and if so, what is the current status of the Company's**  
19 **financing application?**

20 **A.** Yes, the Company filed a financing application<sup>9</sup> seeking authority to refinance all of its  
21 current \$4.935 million of IDA bond debt with \$4.935 million of replacement debt to be  
22 made available through the Company's ultimate parent, EPCOR. After review of the  
23 Company's initial proposed refinancing, Staff determined that it would not recommend  
24 approval of the Company's proposed refinancing, and communicated this determination to  
25 the Company.

---

<sup>9</sup> Docket No. W-02113A-13-0047, dated March 1, 2013.

1     **Q.     Did the Company recently amend its financing application?**

2     A.     Yes. CCWC filed an amendment to its financing application with the Commission on  
3           November 22, 2013. In the amended filing, the Company proposes new lending terms,  
4           and has requested that approval of the financing be expedited and that the financing  
5           docket *not* be consolidated with the rate docket.

6  
7     **Q.     Is Staff currently in a position to express a recommendation on the Company's**  
8           **amended refinancing proposal?**

9     A.     No. The Company's amended filing has not been fully analyzed, and at this juncture Staff  
10           will need to obtain additional information from CCWC before making that determination.

11  
12    **Q.     In light of the above, what cost of debt does Staff recommend for CCWC in this**  
13           **proceeding?**

14    A.     Staff recommends a cost of debt of 5.9 percent. Staff's recommended cost of debt is  
15           reflective of the cost of CCWC's existing IDA long-term debt, and not the replacement  
16           debt proposed by the Company in its amended financing application. Staff intends to  
17           issue new data requests to the Company relating to CCWC's amended filing, and will be  
18           prepared to respond to the Company's amended financing proposal and to the issue of  
19           consolidation when filing Staff's surrebuttal testimony.

20  
21    **V.     RETURN ON EQUITY**

22    *Background*

23    **Q.     Please define the term "cost of equity capital."**

24    A.     The cost of equity is the rate of return that investors expect to earn on their investment in a  
25           business entity given its risk. In other words, the cost of equity to the entity is the  
26           investors' expected rate of return on other investments of similar risk. As investors have a

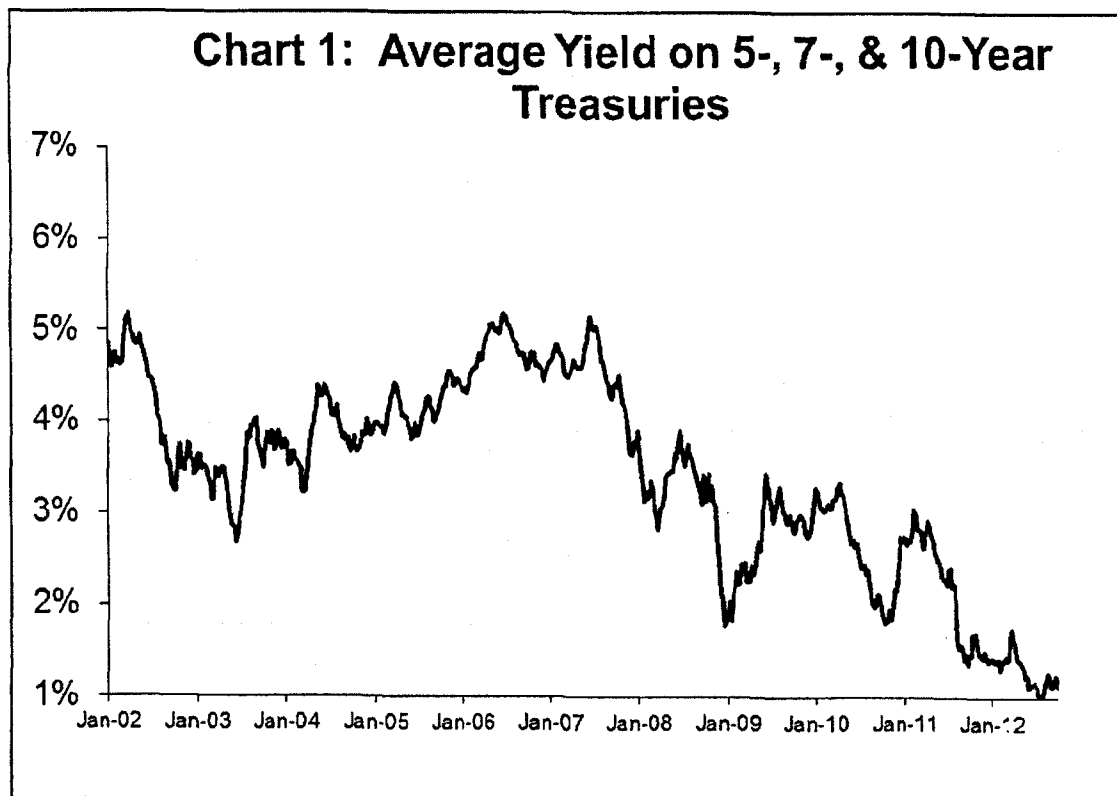
1 wide selection of stocks to choose from, they will choose stocks with similar risks but  
2 higher returns. Therefore, the market determines the entity's cost of equity.  
3

4 **Q. Is there a correlation between interest rates and the cost of equity?**

5 A. Yes, there is a positive correlation between interest rates and the cost of equity, as the two  
6 tend to move in the same direction.  
7

8 **Q. What has been the general trend of interest rates in recent years?**

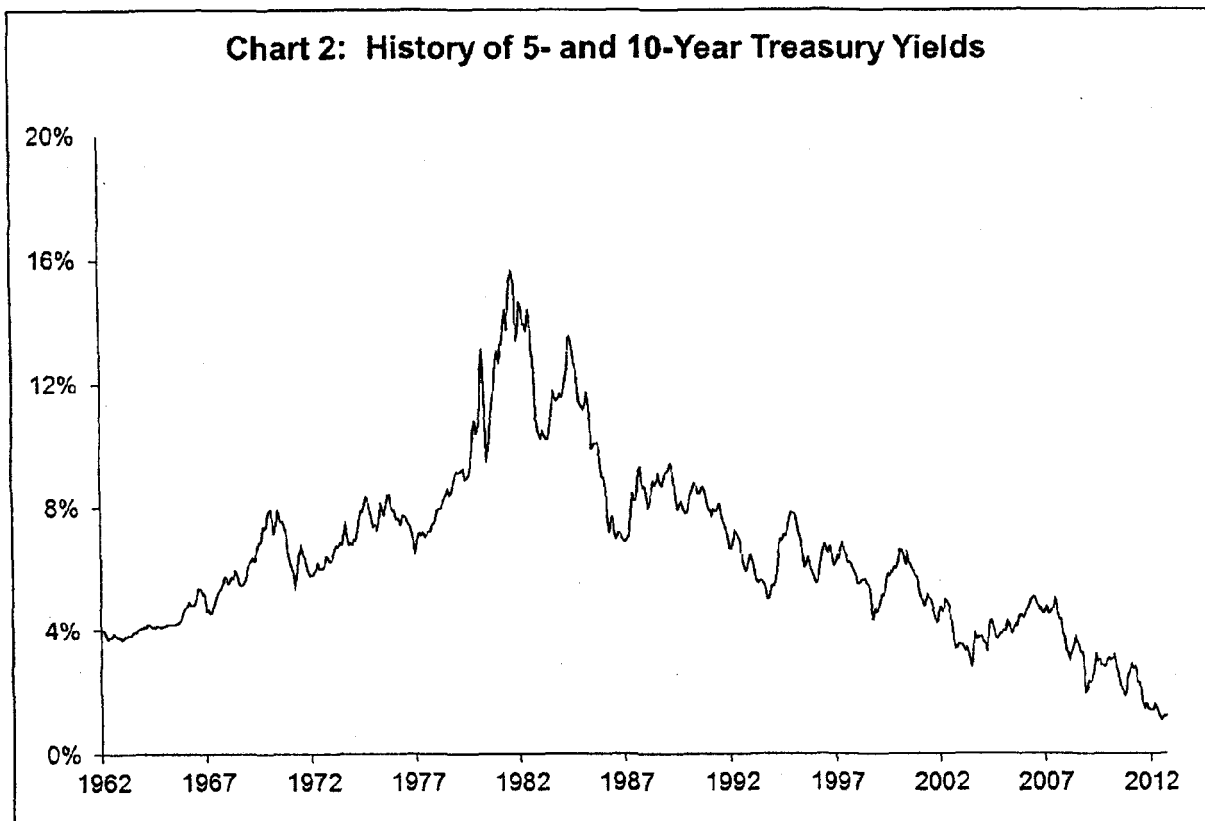
9 A. A chronological chart of interest rates is a good tool to show interest rate history and  
10 identify trends. Chart 1 graphs intermediate U.S. treasury rates from January 4, 2002, to  
11 May 31, 2013.  
12



As shown in Chart 1, intermediate-term interest rates trended downward from 2002 to mid-2003, trended upward through mid-2007, and have generally trended downward since that time.

**Q. What has been the general trend in interest rates longer term?**

**A.** U.S. Treasury rates from January 1962- May 2013 are shown in Chart 2. The chart shows that interest rates trended upward through the mid-1980s and have trended downward since that time.



Source: Federal Reserve



1    **Q.    Do these trends have relevance to the cost of equity?**

2    A.    Yes. As previously noted, interest rates and the cost of equity tend to move in the same  
3       direction; therefore, it can be concluded that the cost of equity has also declined over the  
4       past 25 years.

5  
6    **Q.    Do actual returns represent the cost of equity?**

7    A.    No. The cost of equity represents investors' *expected* returns and not realized returns.

8  
9    *Risk*

10   **Q.    Please define risk in relation to cost of capital.**

11   A.    Risk, as it relates to an investment, is the variability or uncertainty of the returns on a  
12       particular security. Investors are risk averse and require a greater potential return to invest  
13       in relatively greater risk opportunities, i.e., investors require compensation for taking  
14       on additional risk. Risk is generally separated into two components. Those components  
15       are market risk (systematic risk) and non-market risk (diversifiable risk or firm-specific  
16       risk).

17  
18   **Q.    What is market risk?**

19   A.    Market risk, or systematic risk, is the risk associated with an investment that cannot be  
20       reduced through diversification. Market risk stems from factors that affect all securities,  
21       such as recessions, war, inflation and high interest rates. These factors affect the entire  
22       market. However, market risk does not impact each security to the same degree.

23  
24   **Q.    Please define business risk.**

25   A.    Business risk is the fluctuation of earnings inherent in a firm's operations and  
26       environment, such as competition and adverse economic conditions, which may impair its

1 ability to provide returns on investment. Companies in the same or similar line of  
2 business tend to experience the same fluctuations in business cycles.

3  
4 **Q. Please define financial risk.**

5 A. Financial risk is the fluctuation of earnings inherent in the use of debt financing that may  
6 impair a firm's ability to provide adequate returns; the higher the percentage of debt in a  
7 company's capital structure, the greater its exposure to financial risk.

8  
9 **Q. Do business risk and financial risk affect the cost of equity?**

10 A. Yes.

11  
12 **Q. Is a firm subject to any other risk?**

13 A. Yes. Firms are also subject to unsystematic or firm-specific risk. Examples of  
14 unsystematic risk include losses caused by labor problems, nationalization of assets, loss  
15 of a big client or weather conditions. However, investors can eliminate firm-specific risk  
16 by holding a diverse portfolio; thus, it is not of concern to diversified investors.

17  
18 **Q. How does CCWC's financial risk exposure compare to that of Staff's sample group  
19 of water companies?**

20 A. JAC-4 shows the capital structures of the seven sample water companies as of December  
21 2012, and CCWC's capital structure as of the test year ending December 31, 2012. As  
22 shown, the sample water utilities were capitalized with approximately 50.3 percent debt  
23 and 49.7 percent equity, while CCWC's capital structure consists of 17.8 percent debt and  
24 82.2 percent equity. Thus, compared to Staff's sample companies, CCWC has  
25 significantly less exposure to financial risk.  
26

1 **Q. Is the cost of equity affected by firm-specific risk?**

2 A. No. Since firm-specific risk can be eliminated through diversification, it does not affect  
3 the cost of equity.  
4

5 **Q. Can investors expect additional returns for firm-specific risk?**

6 A. No. Investors who hold diversified portfolios can effectively eliminate firm-specific risk  
7 and, consequently, do not require any additional return. Since investors who choose to be  
8 less than fully-diversified must compete in the market with fully-diversified investors, the  
9 former cannot expect to be compensated for unique risk.  
10

## 11 **VI. ESTIMATING THE COST OF EQUITY**

### 12 *Introduction*

13 **Q. Did Staff directly estimate the cost of equity for CCWC?**

14 A. No. Since CCWC is not a publicly-traded company, Staff is unable to directly estimate its  
15 cost of equity due to the lack of firm-specific market data. Instead, Staff estimated the  
16 Company's cost of equity indirectly, using a representative sample group of publicly-  
17 traded water utilities as a proxy, taking the average of the sample group to reduce the  
18 sample error resulting from random fluctuations in the market at the time the information  
19 is gathered.  
20

21 **Q. What sample companies did Staff select as proxies for CCWC?**

22 A. Staff's sample consists of the following seven publicly-traded water utilities: American  
23 States Water, California Water, Aqua America, Connecticut Water Service, Middlesex  
24 Water, SJW Corporation and York Water. Staff selected these companies because they  
25 are publicly-traded and receive the majority of their earnings from regulated operations.  
26

1 **Q. What models did Staff implement to estimate CCWC's cost of equity?**

2 A. Staff used two variations of the DCF model, both of which are market-based, to estimate  
3 the cost of equity for CCWC: the constant-growth DCF model and the multi-stage DCF  
4 model.

5  
6 **Q. Please explain why Staff chose the DCF model.**

7 A. Staff chose to use the DCF model because it is a widely-recognized market-based model  
8 and has been used extensively to estimate the cost of equity. For the reasons noted earlier,  
9 Staff has not incorporated estimates derived from the CAPM into its cost of equity  
10 analysis for CCWC. An explanation of the DCF model is provided below.

11  
12 *Discounted Cash Flow Model Analysis*

13 **Q. Please provide a brief summary of the theory upon which the DCF method of**  
14 **estimating the cost of equity is based.**

15 A. The DCF method of stock valuation is based on the theory that the value of an investment  
16 is equal to the sum of the future cash flows generated from the aforementioned investment  
17 discounted to the present time. This method uses expected dividends, market price and  
18 dividend growth rate to calculate the cost of capital. Professor Myron Gordon pioneered  
19 the DCF method in the 1960s. The DCF method has become widely used to estimate the  
20 cost of equity for public utilities due to its theoretical merit and its simplicity. Staff used  
21 the financial information for the relevant seven sample companies in the DCF model and  
22 averaged the results to determine an estimated cost of equity for the sample companies.

23  
24 **Q. Does Staff use more than one version of the DCF?**

25 A. Yes. Staff uses two versions of the DCF model: the constant-growth DCF and the multi-  
26 stage or non-constant growth DCF. The constant-growth DCF assumes that an entity's

dividends will grow indefinitely at the same rate. The multi-stage growth DCF model assumes the dividend growth rate will change at some point in the future.

The Constant-Growth DCF

**Q. What is the mathematical formula used in Staff's constant-growth DCF analysis?**

**A. The constant-growth DCF formula used in Staff's analysis is:**

Equation 2 :

$$K = \frac{D_1}{P_0} + g$$

where :  $K$  = the cost of equity

$D_1$  = the expected annual dividend

$P_0$  = the current stock price

$g$  = the expected infinite annual growth rate of dividends

Equation 2 assumes that the entity has a constant earnings retention rate and that its earnings are expected to grow at a constant rate. According to Equation 2, a stock with a current market price of \$10 per share, an expected annual dividend of \$0.45 per share and an expected dividend growth rate of 3.0 percent per year has a cost of equity to the entity of 7.5 percent reflected by the sum of the dividend yield ( $\$0.45 / \$10 = 4.5$  percent) and the 3.0 percent annual dividend growth rate.

**Q. How did Staff calculate the expected dividend yield ( $D_1/P_0$ ) component of the constant-growth DCF formula?**

**A. Staff calculated the expected yield component of the DCF formula by dividing the expected annual dividend ( $D_1$ ) by the spot stock price ( $P_0$ ) after the close of market on October 23, 2013, as reported by *MSN Money*.**

1 **Q. Why did Staff use the October 23, 2013, spot price rather than a historical average**  
2 **stock price to calculate the dividend yield component of the DCF formula?**

3 A. The current, rather than historic, market price is used in order to be consistent with  
4 financial theory. In accordance with the Efficient Market Hypothesis, the current stock  
5 price is reflective of all available information on a stock, and as such reveals investors'  
6 expectations of future returns.

7  
8 **Q. How did Staff estimate the dividend growth (g) component of the constant-growth**  
9 **DCF model represented by Equation 2?**

10 A. The dividend growth component used by Staff is determined by the average of six  
11 different estimation methods, as shown in Schedule JAC-8. Staff calculated historical and  
12 projected growth estimates on dividend-per-share ("DPS"),<sup>10</sup> earnings-per-share ("EPS")<sup>11</sup>  
13 and sustainable growth bases.

14  
15 **Q. Why did Staff examine EPS growth to estimate the dividend growth component of**  
16 **the constant-growth DCF model?**

17 A. Historic and projected EPS growth are used because dividends are related to earnings.  
18 Dividend distributions may exceed earnings in the short run, but cannot continue  
19 indefinitely. In the long term, dividend distributions are dependent on earnings.

20  
21 **Q. How did Staff estimate historical DPS growth?**

22 A. Staff estimated historical DPS growth by calculating a compound annual DPS growth rate  
23 for each of its sample companies over the 10-year period, 2002-2012. As shown in  
24 Schedule JAC-5, the average historical DPS growth rate for the sample was 3.6 percent.

25

---

<sup>10</sup> Derived from information provided by *Value Line*.

<sup>11</sup> Derived from information provided by *Value Line*.

1     **Q.     How did Staff estimate projected DPS growth?**

2     A.     Staff calculated an average of the projected DPS growth rates for the sample water utilities  
3             from *Value Line* through the period, 2016-2018. The average projected DPS growth rate  
4             is 5.5 percent, as shown in Schedule JAC-5.

5  
6     **Q.     How did Staff estimate historical EPS growth rate?**

7     A.     Staff estimated historical EPS growth by calculating a compound annual EPS growth rate  
8             for each of its sample companies over the 10-year period, 2002-2012. As shown in  
9             Schedule JAC-5, the average historical EPS growth rate for the sample was 5.1 percent.

10  
11    **Q.     How did Staff estimate projected EPS growth?**

12    A.     Staff calculated an average of the projected EPS growth rates for the sample water utilities  
13             from *Value Line* through the period, 2016-2018. The average projected EPS growth rate  
14             is 5.6 percent, as shown in Schedule JAC-5.

15  
16    **Q.     How does Staff calculate its historical and projected sustainable growth rates?**

17    A.     Historical and projected sustainable growth rates are calculated by adding their respective  
18             retention growth rate terms (br) to their respective stock financing growth rate terms (vs),  
19             as shown in Schedule JAC-6.

20  
21    **Q.     What is retention growth?**

22    A.     Retention growth is the growth in dividends due to the retention of earnings. The  
23             retention growth concept is based on the theory that dividend growth cannot be achieved  
24             unless the company retains and reinvests a portion of its earnings. The retention growth is  
25             used in Staff's calculation of sustainable growth shown in Schedule JAC-6.

26

1     **Q.     What is the formula for the retention growth rate?**

2     A.     The retention growth rate is the product of the retention ratio and the book/accounting  
3             return on equity. The retention growth rate formula is:

4

5

Equation 3:

$$\text{Retention Growth Rate} = br$$

where :     ***b*** = the retention ratio (1 – dividend payout ratio)  
              ***r*** = the accounting/book return on common equity

6

7     **Q.     How did Staff calculate the average historical retention growth rate (br) for the**  
8             **sample water utilities?**

9     A.     Staff calculated the mean of the 10-year average historical retention rate for each sample  
10            company over the period, 2002-2012. As shown in Schedule JAC-6, the historical  
11            average retention (br) growth rate for the sample is 2.7 percent.

12

13    **Q.     How did Staff estimate its projected retention growth rate (br) for the sample water**  
14             **utilities?**

15    A.     Staff used the retention growth projections for the sample water utilities for the period,  
16            2016-2018, from *Value Line*. As shown in Schedule JAC-6, the projected average  
17            retention growth rate for the sample companies is 3.8 percent.

18

19    **Q.     When can retention growth provide a reasonable estimate of future dividend**  
20             **growth?**

21    A.     The retention growth rate is a reasonable estimate of future dividend growth when the  
22            retention ratio is reasonably constant and the entity's market price to book value ("market-



1 to-book ratio”) is expected to be 1.0. The average retention ratio has been reasonably  
2 constant in recent years. However, the market-to-book ratio for the sample water utilities  
3 is 2.3, notably higher than 1.0, as shown in Schedule JAC-7.  
4

5 **Q. Is there any financial implication of a market-to-book ratio greater than 1.0?**

6 A. Yes. A market-to-book ratio greater than 1.0 implies that investors expect an entity to  
7 earn an accounting/book return on its equity that exceeds its cost of equity. The  
8 relationship between required returns and expected cash flows is readily observed in the  
9 fixed securities market. For example, assume an entity contemplating issuance of bonds  
10 with a face value of \$10 million at either 6 percent or 8 percent and, thus, paying annual  
11 interest of \$600,000 or \$800,000, respectively. Regardless of investors’ required return on  
12 similar bonds, investors will be willing to pay more for the bonds if issued at 8 percent  
13 than if the bonds are issued at 6 percent. For example, if the current interest rate required  
14 by investors is 6 percent, then they would bid \$10 million for the 6 percent bonds and  
15 more than \$10 million for the 8 percent bonds. Similarly, if equity investors require a 9  
16 percent return and expect an entity to earn accounting/book returns of 13 percent, the  
17 market will bid up the price of the entity’s stock to provide the required return of 9  
18 percent.  
19

20 **Q. How has Staff generally recognized a market-to-book ratio exceeding 1.0 in its cost of**  
21 **equity analyses in recent years?**

22 A. Staff has assumed that investors expect the market-to-book ratio to remain greater than  
23 1.0. Given that assumption, Staff has added a stock financing growth rate (vs) term to the  
24 retention ratio (br) term to calculate its historical and projected sustainable growth rates.  
25

1 Q. Do the historical and projected sustainable growth rates Staff uses to develop its  
2 DCF cost of equity in this case continue to include a stock financing growth rate  
3 term?

4 A. Yes.

6 Q. What is stock financing growth?

7 A. Stock financing growth is the increase in an entity's dividends attributable to the sale of  
8 stock by that entity. Stock financing growth is a concept derived by Myron Gordon and  
9 discussed in his book *The Cost of Capital to a Public Utility*.<sup>12</sup> Stock financing growth is  
10 the product of the fraction of the funds raised from the sale of stock that accrues to  
11 existing shareholders ( $v$ ) and the fraction resulting from dividing the funds raised from the  
12 sale of stock by the existing common equity ( $s$ ).

14 Q. What is the mathematical formula for the stock financing growth rate?

15 A. The mathematical formula for stock financing growth is:

Equation 4:

$$\text{Stock Financing Growth} = vs$$

where:  $v$  = Fraction of the funds raised from the sale of stock that accrues  
to existing shareholders  
 $s$  = Funds raised from the sale of stock as a fraction of the existing  
common equity

17 Q. How is the variable  $v$  presented above calculated?

18 A. Variable  $v$  is calculated as follows:

---

<sup>12</sup> Gordon, Myron J. *The Cost of Capital to a Public Utility*. MSU Public Utilities Studies, Michigan, 1974. pp 31-35.

Equation 5:

$$v = 1 - \left( \frac{\text{book value}}{\text{market value}} \right)$$

For example, assume that a share of stock has a \$30 book value and is selling for \$45.

Then, to find the value of  $v$ , the formula is applied:

$$v = 1 - \left( \frac{30}{45} \right)$$

In this example,  $v$  is equal to 0.33.

**Q. How is the variable  $s$  presented above calculated?**

**A.** Variable  $s$  is calculated as follows:

Equation 6:

$$s = \frac{\text{Funds raised from the issuance of stock}}{\text{Total existing common equity before the issuance}}$$

For example, assume that an entity has \$150 in existing equity, and it sells \$30 of stock.

Then, to find the value of  $s$ , the formula is applied:

$$s = \left( \frac{30}{150} \right)$$

In this example,  $s$  is equal to 20.0 percent.

**Q. What is the  $vs$  term when the market-to-book ratio is equal to 1.0?**

**A.** A market-to-book ratio of 1.0 reflects that investors expect an entity to earn a book/accounting return on their equity investment equal to the cost of equity. When the

1 market-to-book ratio is equal to 1.0, none of the funds raised from the sale of stock by the  
2 entity accrues to the benefit of existing shareholders, i.e., the term  $v$  is equal to zero (0.0).  
3 Consequently, the  $vs$  term is also equal to zero (0.0). When stock financing growth is  
4 zero, dividend growth depends solely on the  $br$  term.

5  
6 **Q. What is the effect of the  $vs$  term when the market-to-book ratio is greater than 1.0?**

7 A. A market-to-book ratio greater than 1.0 reflects that investors expect an entity to earn a  
8 book/accounting return on their equity investment greater than the cost of equity.  
9 Equation 5 shows that, when the market-to-book ratio is greater than 1.0, the  $v$  term is also  
10 greater than zero. The excess by which new shares are issued and sold over book value  
11 per share of outstanding stock is a contribution that accrues to existing stockholders in the  
12 form of a higher book value. The resulting higher book value leads to higher expected  
13 earnings and dividends. Continued growth from the  $vs$  term is dependent upon the  
14 continued issuance and sale of additional shares at a price that exceeds book value per  
15 share.

16  
17 **Q. What  $vs$  estimate did Staff calculate from its analysis of the sample water utilities?**

18 A. Staff estimated an average stock financing growth of 2.4 percent for the sample water  
19 utilities, as shown in Schedule JAC-6.

20  
21 **Q. What would occur if an entity had a market-to-book ratio greater than 1.0 as a result  
22 of investors expecting earnings to exceed its cost of equity, and subsequently  
23 experienced newly-authorized rates equal only to its cost of equity?**

24 A. Holding all other factors constant, one would expect market forces to move the company's  
25 stock price lower, closer to a market-to-book ratio of 1.0, to reflect investor expectations  
26 of reduced expected future cash flows.

1 **Q. If the average market-to-book ratio of Staff's sample water utilities were to fall to 1.0**  
2 **due to authorized ROEs equaling their cost of equity, would inclusion of the *vs* term**  
3 **be necessary to Staff's constant-growth DCF analysis?**

4 A. No. As discussed above, when the market-to-book ratio is equal to 1.0, none of the funds  
5 raised from the sale of stock by the entity accrues to the benefit of existing shareholders  
6 because the *v* term equals to zero and, consequently, the *vs* term also equals zero. When  
7 the market-to-book ratio equals 1.0, dividend growth depends solely on the *br* term.  
8 Staff's inclusion of the *vs* term assumes that the market-to-book ratio continues to exceed  
9 1.0 and that the water utilities will continue to issue and sell stock at prices above book  
10 value with the effect of benefitting existing shareholders.

11  
12 **Q. What are Staff's historical and projected sustainable growth rates?**

13 A. Staff's estimated historical sustainable growth rate is 5.1 percent based on an analysis of  
14 earnings retention for the sample water companies. Staff's projected sustainable growth  
15 rate is 6.2 percent based on retention growth projected by *Value Line*. Schedule JAC-6  
16 presents Staff's estimates of the sustainable growth rate.

17  
18 **Q. What is Staff's expected infinite annual growth rate in dividends?**

19 A. Staff's expected dividend growth rate (*g*) is 5.2 percent, which is the average of historical  
20 and projected DPS, EPS, and sustainable growth estimates. Staff's calculation of the  
21 expected infinite annual growth rate in dividends is shown in Schedule JAC-8.

22  
23 **Q. What is Staff's constant-growth DCF estimate for the sample utilities?**

24 A. Staff's constant-growth DCF estimate is 8.1 percent, as shown in Schedule JAC-3.  
25

The Multi-Stage DCF

**Q. Why did Staff implement the multi-stage DCF model to estimate CCWC's cost of equity?**

**A.** Staff generally uses the multi-stage DCF model to consider the assumption that dividends may not grow at a constant rate. The multi-stage DCF uses two stages of growth; the first stage (near-term) having a duration of four years, followed by a second stage (long-term) of constant growth.

**Q. What is the mathematical formula for the multi-stage DCF?**

**A.** The multi-stage DCF formula is shown in the following equation:

Equation 7 :

$$P_0 = \sum_{i=1}^n \frac{D_i}{(1+K)^i} + \frac{D_n(1+g_n)}{K-g_n} \left[ \frac{1}{(1+K)} \right]^n$$

Where :  $P_0$  = current stock price  
 $D_i$  = dividends expected during stage 1  
 $K$  = cost of equity  
 $n$  = years of non - constant growth  
 $D_n$  = dividend expected in year n  
 $g_n$  = constant rate of growth expected after year n

**Q. What steps did Staff take to implement its multi-stage DCF cost of equity model?**

**A.** First, Staff projected future dividends for each of the sample water utilities using near-term and long-term growth rates. Second, Staff calculated the rate (cost of equity) which equates the present value of the forecasted dividends to the current stock price for each of the sample water utilities. Lastly, Staff calculated an overall sample average cost of equity estimate.

1     **Q.     How did Staff calculate near-term (stage-1) growth?**

2     A.     The stage-1 growth rate is based on *Value Line*'s projected dividends for the next twelve  
3           months, when available, and on the average dividend growth (g) rate of 5.2 percent,  
4           calculated in Staff's constant DCF analysis for the remainder of the stage.

5  
6     **Q.     How did Staff estimate long-term (stage-2) growth?**

7     A.     Staff calculated the stage-2 growth rate using the arithmetic mean rate of growth in Gross  
8           Domestic Product ("GDP") from 1929 to 2012.<sup>13</sup> Using the GDP growth rate assumes  
9           that the water utility industry is expected to grow at the same rate as the overall economy.

10

11    **Q.     What is the historical GDP growth rate that Staff used to estimate stage-2 growth?**

12    A.     Staff used 6.5 percent to estimate the stage-2 growth rate.

13

14    **Q.     What is Staff's multi-stage DCF estimate for the sample utilities?**

15    A.     Staff's multi-stage DCF estimate is 9.3 percent, as shown in Schedule JAC-3.

16

17    **Q.     What is Staff's overall DCF estimate for the sample utilities?**

18    A.     Staff's overall DCF estimate is 8.7 percent. Staff calculated the overall DCF estimate by  
19           averaging the constant growth DCF (8.1%) and multi-stage DCF (9.3%) estimates, as  
20           shown in Schedule JAC-3.

21

---

<sup>13</sup> [www.bea.doc.gov](http://www.bea.doc.gov).

**VII. SUMMARY OF STAFF'S COST OF EQUITY ANALYSIS**

**Q. What is the result of Staff's constant-growth DCF analysis to estimate the cost of equity for the sample water utilities?**

**A.** Schedule JAC-3 shows the result of Staff's constant-growth DCF analysis. The result of Staff's constant-growth DCF analysis is as follows:

$$k = 2.9\% + 5.2\%$$

$$k = 8.1\%$$

Staff's constant-growth DCF estimate of the cost of equity for the sample water utilities is 8.1 percent.

**Q. What is the result of Staff's multi-stage DCF analysis to estimate of the cost of equity for the sample utilities?**

**A.** Schedule JAC-9 shows the result of Staff's multi-stage DCF analysis. The result of Staff's multi-stage DCF analysis is:

Company	Equity Cost Estimate (k)
American States Water	9.2%
California Water	9.4%
Aqua America	8.8%
Connecticut Water	9.5%
Middlesex Water	10.1%
SJW Corp	8.9%
York Water	<u>9.2%</u>
Average	9.3%



1 Staff's multi-stage DCF estimate of the cost of equity for the sample water utilities is 9.3  
2 percent.

3

4 **Q. What is Staff's overall DCF estimate of the cost of equity for the sample utilities?**

5 A. Staff's overall DCF estimate of the cost of equity for the sample utilities is 8.7 percent.  
6 Staff calculated an overall DCF cost of equity estimate by averaging Staff's constant  
7 growth DCF (8.1 percent) and Staff's multi-stage DCF (9.3 percent) estimates, as shown  
8 in Schedule JAC-3.

9

10 **VIII. FINAL COST OF EQUITY ESTIMATES FOR CCWC**

11 **Q. Please compare CCWC's capital structure to that of Staff's seven sample companies.**

12 A. The average capital structure for the sample water utilities is composed of 50.3 percent  
13 debt and 49.7 percent equity, as shown in Schedule JAC-4. In contrast, CCWC's capital  
14 structure is composed of 17.8 percent debt and 82.2 percent equity. Since the Company's  
15 capital structure is less highly leveraged than that of the average sample water utility,  
16 CCWC's stockholders bear *less* financial risk than do equity shareholders of the sample  
17 utilities.

18

19 **Q. Does CCWC's reduced financial risk affect its cost of equity?**

20 A. Yes. As previously discussed, financial risk is a component of market risk and investors  
21 require compensation for market risk. Since CCWC's financial risk exposure is less than  
22 that of the sample average water utility, its cost of equity is *lower* than that of the sample  
23 water companies. As noted earlier, Staff is recommending a hypothetical capital structure  
24 consisting of 40 percent debt and 60 percent equity to give recognition to CCWC's  
25 reduced exposure to financial risk.

26

1 Q. Did Staff consider factors other than the results of its technical models in its cost of  
2 equity analysis?

3 A. Yes. In consideration of the relatively uncertain status of the economy and the market that  
4 currently exists, Staff is proposing an upward economic assessment adjustment to the cost  
5 of equity. In this case, Staff recommends a 60 basis point (0.6 percent) upward economic  
6 assessment adjustment, as shown in Schedule JAC-3.

7  
8 Q. What is Staff's ROE estimate for CCWC?

9 A. Staff determined an ROE estimate of 8.7 percent for CCWC based on cost of equity  
10 estimates for the sample companies of 8.1 percent for the constant-growth DCF model and  
11 9.3 percent for the multi-stage DCF model. Staff recommends adoption of a 60 basis  
12 point upward economic assessment adjustment, resulting in a 9.3 percent Staff-  
13 recommended cost of equity, as shown in Schedule JAC-3.

14  
15 **IX. RATE OF RETURN RECOMMENDATION**

16 Q. What overall rate of return did Staff determine for CCWC?

17 A. Staff determined an 8.0 percent ROR for the Company, as shown in Schedule JAC-1 and  
18 the following table:

19  
20

Table 3			
	Weight	Cost	Weighted Cost
Long-term Debt	40.0%	5.9%	2.4%
Common Equity	60.0%	9.3%	<u>5.6%</u>
Overall ROR			<u>8.0%</u>

21

1 X. STAFF RESPONSE TO COMPANY'S COST OF CAPITAL WITNESS MS.  
2 PAULINE M. AHERN

3 Q. Please summarize Ms. Ahern's analyses and recommendations.

4 A. Ms. Ahern recommends an 11.05 percent ROE based on estimates derived from the  
5 single-stage constant growth DCF method, two risk premium ("RPM") models (the  
6 Predictive Risk Premium Model ("PRPM") and a Risk Premium Model using an Adjusted  
7 Total Market Approach), and two CAPM models (the Traditional CAPM and the  
8 Empirical CAPM) for a proxy group of nine sample companies. Ms. Ahern derives an  
9 estimated cost of common equity of 8.84 percent from her DCF analysis, an estimated cost  
10 of common equity of 11.04 percent from her two RPM models, and an estimated cost of  
11 common equity of 10.75 percent from her two CAPM models. She concludes that the  
12 indicated cost of common equity to her sample group of companies before adjustments for  
13 risk is 10.48 percent, based upon the results obtained from her DCF, RPM and CAPM  
14 models. To this 10.48 percent indicated cost of equity figure, Ms. Ahern adds an upward  
15 18 basis point credit risk adjustment and an upward 40 basis point business risk  
16 adjustment, thus arriving at an indicated cost of common equity of 11.06 percent. Ms.  
17 Ahern recommends a cost of common equity of 11.05 percent for CCWC. Her overall  
18 recommended rate of return for the Company is 10.21 percent.

19  
20 For purposes of her single-stage constant growth DCF analysis, Ms. Ahern (i) relies  
21 exclusively on analysts' forecasts for EPS growth to estimate the dividend growth (g)  
22 component (See Exhibit PMA-1, Schedule 6, p. 1), (ii) utilizes a 60-day average stock  
23 price ( $P_0$ ) to calculate an average dividend ( $D_0/P_0$ ) yield (See Exhibit PMA-1, Schedule 6,  
24 p. 1, Note 1), and (iii) makes an upward semi-annual compounding adjustment to the  
25 expected dividend yield ( $D_1/P_0$ ) component (See Exhibit PMA-1, Schedule 6, p. 1, Note  
26 4).

1 For purposes of her CAPM, ECAPM and PRPM analyses, Ms. Ahern employs an inflated  
2 risk free ( $R_f$ ) rate of 4.27 percent, a figure derived by taking an average of the historical  
3 income returns (5.28 percent) on 30-year U.S. Treasury Bonds covering the period, 1926-  
4 2012, and the average forecasted 30-year U.S. Treasury yield (3.25 percent), obtained  
5 from *Blue Chip Financial Forecasts* covering the 18-month period, Q1 2013 – Q2 2014  
6 (See Exhibit PMA-1, Schedule 9, Page 2, Note 2).  
7

8 **Q. Does Staff have any comments on Ms. Ahern's sole reliance on analysts' forecasts of**  
9 **EPS growth to estimate the dividend growth rate (g) in her single-stage constant**  
10 **growth DCF analysis?**

11 **A.** Yes. Exclusive reliance on analysts' forecasts of earnings growth to forecast DPS is  
12 inappropriate because it assumes that investors do not look at other relevant information  
13 such as historical dividend and earnings growth. Generally, analysts' forecasts are known  
14 to be overly optimistic. Sole use of analysts' forecasts to calculate the expected dividend  
15 growth rate, (g), serves to inflate that component of the DCF model and, consequently, the  
16 estimated cost of equity. The appropriate growth rate to use in the DCF model is the  
17 dividend growth rate expected by *investors*, not by analysts. Investors are assumed to be  
18 rational, and as such will want to take into consideration all relevant available information  
19 prior to making an investment decision. Therefore, it is reasonable to assume that  
20 investors would consider both historical measures of past growth, as well as analysts'  
21 forecasts of future growth.  
22

1 Q. Does Staff have evidence to support its assertion that exclusive reliance on analysts'  
2 forecasts of earnings growth in the DCF model would result in inflated cost of equity  
3 estimates?

4 A. Yes. Experts in the financial community have commented on the optimism in analysts'  
5 forecasts of future earnings.<sup>14</sup> A study cited by David Dreman in his book *Contrarian*  
6 *Investment Strategies: The Next Generation* found that *Value Line* analysts were  
7 optimistic in their forecasts by 9 percent annually, on average for the 1987 – 1989 period.  
8 Another study conducted by David Dreman found that between 1982 and 1997, analysts  
9 overestimated the growth of earnings of companies in the S&P 500 by 188 percent.

10  
11 Burton Malkiel, of Princeton University, conducted a study of the 1- and 5-year earnings  
12 forecasts made by some of the most respected names in the investment business. His  
13 results showed that when compared with actual earnings growth rates, the 5-year forecasts  
14 made by professional analysts were far less accurate than estimates derived from several  
15 naïve forecasting models, such as the long-run growth rate in national income. In the  
16 following excerpt from his book, *A Random Walk Down Wall Street*, Professor Malkiel  
17 discusses the results of his study:

18  
19 When confronted with the poor record of their five-year growth  
20 estimates, *the security analysts honestly, if sheepishly, admitted*  
21 *that five years ahead is really too far in advance to make reliable*  
22 *projections.* They protested that although long-term projections  
23 are admittedly important, they really ought to be judged on their  
24 ability to project earnings changes one year ahead. Believe it or  
25 not, it turned out that their one-year forecasts were even worse than  
26 their five-year projections.

---

<sup>14</sup> See Seigel, Jeremy J. *Stocks for the Long Run*. 2002. McGraw-Hill. New York. p. 100. Dreman, David. *Contrarian Investment Strategies: The Next Generation*. 1998. Simon & Schuster. New York. pp. 97-98. Malkiel, Burton G. *A Random Walk Down Wall Street*. 2003. W.W. Norton & Co. New York. p. 175. Testimony of Professors Myron J. Gordon and Lawrence I. Gould, consultant to the Trial Staff (Common Carrier Bureau), FCC Docket 79-63, p. 95.

1 The analysts fought back gamely. They complained that it was  
2 unfair to judge their performance on a wide cross section of  
3 industries, because earnings for high-tech firms and various  
4 "cyclical" companies are notoriously hard to forecast. "Try us on  
5 utilities," one analyst confidently asserted. At the time they were  
6 considered among the most stable group of companies because of  
7 government regulation. So we tried it and they didn't like it. Even  
8 the forecasts for the stable utilities were far off the mark.<sup>15</sup>  
9 (Emphasis added)

10  
11 **Q. Are investors aware of the problems related to analysts' forecasts?**

12 A. Yes. In addition to books, there are numerous published articles appearing in *The Wall*  
13 *Street Journal* and other financial publications that cast doubt on the accuracy of research  
14 analysts' forecasts.<sup>16</sup> Investors, being keenly aware of these inherent biases in forecasts,  
15 will use other methods to assess future growth.

16  
17 **Q. Should DPS growth be considered in a DCF analysis?**

18 A. Yes. As previously stated in section VI of this testimony, the current market price of a  
19 stock is equal to the present value of all expected future dividends, not future earnings.  
20 Professor Jeremy Siegel from the Wharton School of Finance stated:

21  
22 Note that the price of the stock is always equal to the present value  
23 of all future *dividends* and not the present value of future earnings.  
24 Earnings not paid to investors can have value only if they are paid  
25 as dividends or other cash disbursements at a later date. Valuing  
26 stock as the present discounted value of future earnings is  
27 manifestly wrong and greatly overstates the value of the firm.<sup>17</sup>

28  
<sup>15</sup> Malkiel, Burton G. *A Random Walk Down Wall Street*. 2003. W.W. Norton & Co. New York. p. 175

<sup>16</sup> See Smith, Randall & Craig, Suzanne. "Big Firms Had Research Ploy: Quiet Payments Among Rivals." *The Wall Street Journal*. April 30, 2003. Brown, Ken. "Analysts: Still Coming Up Rosy." *The Wall Street Journal*. January 27, 2003. p. C1. Karmin, Craig. "Profit Forecasts Become Anybody's Guess." *The Wall Street Journal*. January 21, 2003. p. C1. Gasparino, Charles. "Merrill Lynch Investigation Widens." *The Wall Street Journal*. April 11, 2002. p. C4. Elstein, Aaron. "Earnings Estimates Are All Over the Map." *The Wall Street Journal*. August 2, 2001. p. C1. Dreman, David. "Don't Count on those Earnings Forecasts." *Forbes*. January 26, 1998. p. 110.

<sup>17</sup> Siegel, Jeremy J. *Stocks for the Long Run*. 2002. McGraw-Hill. New York. P. 93.

1 For valuation purposes, therefore, earnings paid out in the form of a dividend have  
2 paramount relevancy to investors. Additionally, unlike earnings, dividends cannot be  
3 manipulated or overstated. Thus, historical DPS growth should receive appropriate  
4 consideration when estimating the market cost of equity in the DCF model.

5  
6 **Q. Does Staff consider Ms. Ahern's use of a 60-day average stock price to be**  
7 **appropriate for purposes of calculating the current dividend ( $D_0/P_0$ ) yield in the**  
8 **constant growth DCF model?**

9 **A. No. The current dividend yield ( $D_0/P_0$ ) component in the DCF model is better reflected by**  
10 **using a current spot price, not an historical average stock price. Use of average stock**  
11 **prices to calculate the current dividend yield employs stale information and is not**  
12 **reflective of current investor expectations.**

13  
14 **Q. Turning to Ms. Ahern's CAPM, ECAPM and PRPM analyses, does Staff agree with**  
15 **her use of a risk-free ( $R_f$ ) rate derived from both historical measures and forecasted**  
16 **estimates?**

17 **A. No. The appropriate risk-free interest rate to be used is the current rate borne by investors**  
18 **in the market. Ms. Ahern's use of a risk-free rate representing the average of an historical**  
19 **measure and a forecasted estimate of the 30-year U.S. Treasury yield serves to overstate**  
20 **the estimated market cost of equity derived from her CAPM, ECAPM and PRPM models.**

21

1 Q. What risk-free rate does Ms. Ahern use in her CAPM, ECAPM and PRPM risk  
2 premium models?

3 A. Ms. Ahern employs a risk-free ( $R_f$ ) rate of 4.27 percent, a figure representing the historical  
4 average of 30-year U.S Treasury Bond yields covering the period 1926-2012 (5.28%), as  
5 reported by Morningstar, and the forecasted 30-year U.S Treasury yield (3.25%) projected  
6 by *Blue Chip Financial Forecasts* covering the period Q1 2013 – Q2 2014. At present,  
7 the current 30-year long-term spot Treasury yield is 3.59 percent,<sup>18</sup> which suggests that  
8 Ms. Ahern's cost of equity estimates derived from her CAPM, ECAPM and PRPM  
9 models have been overstated by 68 basis points ( $4.27\% - 3.59\% = 0.68\%$ ).

10  
11 Q. Based upon her cost of equity analysis, does Staff have reason to believe that Ms.  
12 Ahern may have further overstated her indicated cost of common equity in this  
13 proceeding?

14 A. Yes. Ms. Ahern's indicated cost of common equity before adjustments for risk is based  
15 upon estimates derived from her DCF (8.84%), RPM (11.04%) and CAPM (10.75%)  
16 estimation methodologies. However, the 10.48 percent indicated cost of equity figure she  
17 proposes (See Exhibit PMA-1, Schedule 1, Page 2 of 2, Line 5) exceeds the 10.21 percent  
18 arithmetic mean calculated from the estimates derived from her models ( $((8.84\% + 11.04\%$   
19  $+ 10.75\%) / 3 = 10.21\%$ ), and thus appears to be overstated by 27 basis points ( $10.48\% -$   
20  $10.21\% = 0.27\%$ ).

21  
22 Q. In her direct testimony, does Ms. Ahern explain how she weighted the cost of equity  
23 estimates derived from her DCF, RPM and CAPM estimation methodologies in  
24 order to arrive at a 10.48 percent indicated cost of equity?

25 A. No, she does not. Ms. Ahern's direct testimony is silent as to this issue.

---

<sup>18</sup> As of Staff's October 23, 2013 spot-price date, the yield on the 30-year U.S. Treasury Bond was 3.59 percent.



1 Q. In light of the above, did Staff issue data requests to the Company inquiring as to  
2 how, based upon the cost of equity estimates obtained from her DCF, RPM and  
3 CAPM estimation methodologies, Ms. Ahern arrived at her 10.48 percent indicated  
4 cost of common equity?

5 A. Yes. Staff issued data request JAC-1.2 to the Company to elicit a response concerning  
6 this issue. The attached Exhibit JAC-A presents the question(s) posed by Staff, and Ms.  
7 Ahern's response. As can be seen, Ms. Ahern was evasive in her response, stating (in  
8 part) that evaluating an investor's required return on common equity "is not a mechanistic,  
9 mathematical exercise, but rather an exercise based upon informed, expert judgment," and  
10 that in addition to taking into consideration "the mean and median costs of common equity  
11 model results, she also considered the range of these results when formulating [her]  
12 indicated cost of common equity cost rate..." Furthermore, Ms. Ahern went on to confirm  
13 that her direct testimony was silent as to the 'computation' of her 10.48 percent indicated  
14 cost of common equity.

15  
16 Q. Given Ms. Ahern's response to Staff data request JAC-1.2, how does Staff comment?

17 A. Ms. Ahern may well have employed "expert judgment" and taken into consideration the  
18 "range" of estimates derived from her DCF, RPM and CAPM models in arriving at her  
19 10.48 percent indicated cost of equity, but the question then becomes why did she not  
20 acknowledge having done so in her direct testimony. It should be noted that Exhibit  
21 PMA-1, Schedule 8 (p. 1) presents a summary of Ms. Ahern's Risk Premium Model  
22 (PRM) results, and while her 11.04 percent indicated risk premium derived common  
23 equity cost rate *does not* represent the arithmetic mean of the cost of equity estimates  
24 derived from her two RPM models (11.52% from the PRPM and 9.61% from the Risk  
25 Premium Using an Adjusted Total Market Approach  $(11.52\% + 9.61\%) / 2 = 10.57\%$ )), in  
26 the narrative of her testimony Ms. Ahern does, in fact, *explain her rationale for placing*

1        *greater weight on the estimates derived from one model as opposed to giving equal weight*  
2        *to both.*<sup>19</sup> Thus, to the extent that Ms. Ahern elected not to use the arithmetic mean for  
3        purposes of arriving at her indicated cost of common equity in Exhibit PMA-1, Schedule 1  
4        (p. 2, line 5), at a bare minimum she has an obligation to explain her weighting  
5        methodology for purposes of this rate proceeding, as her 10.48 percent indicated cost of  
6        equity is evidence that she has weighted, disproportionately, the cost of equity estimates  
7        derived from her DCF, RPM and CAPM estimation methodologies.

8  
9        **Q. Does Staff have any comment regarding Ms. Ahern's proposed 18 basis point**  
10       **upward credit risk adjustment?**

11       A. Yes. Ms. Ahern's proposed credit risk adjustment has no merit, as a 1994 study by S.  
12       Brooks Marshall which investigated the relationship between equity risk and bond risk  
13       concluded that bond ratings fail to explain a large portion of total equity risk (defined as  
14       equity risk premiums and beta). Specifically, the author concluded:

15  
16                "These data show that using a bond rating as the sole measure for  
17                selecting a set of comparable companies for a cost-of-equity determination  
18                will not necessarily produce a group of companies that have similar equity  
19                risk. Most of this risk is explained by characteristics other than bond  
20                ratings."<sup>20</sup>

21  
22        Accordingly, the proposed 18 basis point credit risk adjustment should be denied.  
23

---

<sup>19</sup> See Ahern Direct, p. 37, lines 7-10).

<sup>20</sup> Marshall, S. Brooks. "Bond Ratings: A Poor Predictor of Equity Risk," *Public Utilities Fortnightly*, Oct. 15, 1994, pp. 27-28.

1 Q. Does Staff have any comment regarding Ms. Ahern's proposed 40 basis point  
2 upward business risk adjustment?

3 A. Yes. While Staff would agree with the general proposition that smaller companies are  
4 riskier than larger companies, empirical research has demonstrated that a small company  
5 risk premium adjustment to the cost of equity is unwarranted for regulated utilities.  
6 Annie Wong, of Western Connecticut State University, conducted a study on utility  
7 stocks to determine if the so-called size effect exists in the utility industry, and she writes  
8 as follows:

9  
10 The fact that the two samples show different, though weak, results  
11 indicates that utility and industrial stocks do not share the same  
12 characteristics. First, given firm size, utility stocks are consistently less  
13 risky than industrial stocks. Second, industrial betas tend to decrease with  
14 firm size but utility betas do not. These findings may be attributed to the  
15 fact that all public utilities operate in an environment with regional  
16 monopolistic power and regulated financial structure. As a result, the  
17 business and financial risks are very similar among the utilities regardless  
18 of their size. Therefore, utility betas would not necessarily be expected to  
19 be related to firm size.

20  
21 The object of this study is to examine if the size effect exists in the utility  
22 industry. After controlling for equity values, there is some weak evidence  
23 that firm size is a missing factor from the CAPM for the industrial but not  
24 for the utility stocks. *This implies that although the size phenomenon has*  
25 *been strongly documented for industrials, the findings suggest that there is*  
26 *no need to adjust for the firm size in utility regulations.* [emphasis  
27 added].<sup>21</sup>

28  
29 To underscore this point, Paschall and Hawkins write as follows:

30  
31 A size premium does not automatically apply in every case. Each privately  
32 held company should be analyzed to determine if a size premium is  
33 appropriate in its particular case. There can be unusual circumstances  
34 where a small company has risk characteristics that make it far less risky

---

<sup>21</sup> Annie Wong, "Utility Stock and the Size Effect: An Empirical Analysis," *Journal of the Midwest Finance Association*, (1993), p.98.

1                   than the average company, warranting the use of a very low equity risk  
2                   premium. One possible example of this is a private water utility  
3                   (monopoly situation, very low risk, near-guarantee of payments).<sup>22</sup>  
4

5       **Q. Has the Commission previously ruled on the issue of firm size and whether it**  
6       **warrants a risk premium adjustment to the cost of equity?**

7       **A.** Yes. The Commission previously ruled in Decision No. 64282<sup>23</sup> for Arizona Water that  
8       firm size does not warrant recognition of a risk premium stating, "We do not agree with  
9       the Company's proposal to assign a risk premium to Arizona Water based on its size  
10      relative to other publicly traded water utilities...." The Commission confirmed its  
11      previous ruling in Decision No. 64727<sup>24</sup> for Black Mountain Gas agreeing with Staff that  
12      "the 'firm size phenomenon' does not exist for regulated utilities, and that therefore there  
13      is no need to adjust for risk for small firm size in utility regulation." All companies have  
14      firm-specific risks; therefore, the existence of unique risks for a company does not lead to  
15      the conclusion that its total risk is greater than other entities. Moreover, as previously  
16      discussed, investors cannot expect compensation for firm-specific risk since it can be  
17      eliminated through diversification.  
18

19      **Q. Does this conclude your direct testimony?**

20      **A.** Yes, it does.

---

<sup>22</sup> Michael A. Paschall and George B. Hawkins, "Do Smaller Companies Warrant a Higher Discount Rate for Risk?: The 'Size Effect' Debate," *CCH Business Valuation Alert*, Vol. 1, Issue No. 2, December 1999.

<sup>23</sup> Dated December 28, 2001.

<sup>24</sup> Dated April 17, 2002.

Chaparral City Water Company Cost of Capital Calculation  
Capital Structure  
And Weighted Average Cost of Capital  
Staff Recommended and Company Proposed

[A]	[B]	[C]	[D]
<u>Description</u>	<u>Weight (%)</u>	<u>Cost</u>	<u>Weighted Cost</u>
<b>Staff Recommended Structure</b>			
Debt	40.0%	5.9%	2.4%
Common Equity	60.0%	9.3%	<u>5.6%</u>
Weighted Average Cost of Capital			8.0%
<b>Company Proposed Structure</b>			
Debt	16.60%	5.97%	0.99%
Common Equity	83.40%	11.05%	<u>9.22%</u>
Weighted Average Cost of Capital			10.21%

[D] : [B] x [C]

Supporting Schedules: JAC-2, JAC-3 and JAC-4.

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### Schedule JAC-3

[illegible]

## 2 Schedule JAC-8

Chaparral City Water Company Cost of Capital Calculation  
Average Capital Structure of Sample Water Utilities

[A]	[B]	[C]	[D]
<u>Company</u>	<u>Debt</u>	<u>Common Equity</u>	<u>Total</u>
American States Water	43.3%	56.7%	100.0%
California Water	54.2%	45.8%	100.0%
Aqua America	55.2%	44.8%	100.0%
Connecticut Water	55.3%	44.7%	100.0%
Middlesex Water	43.1%	56.9%	100.0%
SJW Corp	56.2%	43.8%	100.0%
York Water	<u>45.0%</u>	<u>55.0%</u>	<u>100.0%</u>
Average Sample Water Utilities	<b>50.3%</b>	<b>49.7%</b>	<b>100.0%</b>
Chaparral City - Actual Capital Structure	<b>17.8%</b>	<b>82.2%</b>	<b>100.0%</b>

Source:

Sample Water Companies from Value Line



Chaparral City Water Company Cost of Capital Calculation  
Growth in Earnings and Dividends  
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]
<u>Company</u>	Dividends Per Share 2002 to 2012 <u>DPS<sup>1</sup></u>	Dividends Per Share Projected <u>DPS<sup>1</sup></u>	Earnings Per Share 2002 to 2012 <u>EPS<sup>1</sup></u>	Earnings Per Share Projected <u>EPS<sup>1</sup></u>
American States Water	3.9%	8.4%	7.7%	3.8%
California Water	1.2%	7.4%	5.0%	5.8%
Aqua America	7.7%	9.7%	7.3%	10.7%
Connecticut Water	1.7%	2.9%	3.2%	3.3%
Middlesex Water	1.6%	1.6%	2.1%	5.0%
SJW Corp	4.4%	4.9%	4.2%	6.3%
York Water	4.4%	3.8%	6.1%	4.6%
Average Sample Water Utilities	3.6%	5.5%	5.1%	5.6%

<sup>1</sup> Value Line

Chaparral City Water Company Cost of Capital Calculation  
Sustainable Growth  
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]
Company	Retention Growth 2002 to 2012 <u>br</u>	Retention Growth Projected <u>br</u>	Stock Financing Growth <u>vs</u>	Sustainable Growth 2002 to 2012 <u>br + vs</u>	Sustainable Growth Projected <u>br + vs</u>
American States Water	3.8%	5.2%	1.6%	5.4%	6.8%
California Water	2.4%	3.2%	1.6%	4.0%	4.8%
Aqua America	3.9%	5.3%	1.9%	5.8%	7.2%
Connecticut Water	2.0%	3.3%	4.0%	6.0%	7.3%
Middlesex Water	1.2%	2.8%	3.1%	4.3%	5.9%
SJW Corp	3.5%	3.8%	0.1%	3.6%	3.9%
York Water	<u>2.2%</u>	<u>2.8%</u>	<u>4.7%</u>	<u>6.8%</u>	<u>7.5%</u>
Average Sample Water Utilities	2.7%	3.8%	2.4%	5.1%	6.2%

[B]: Value Line

[C]: Value Line

[D]: Value Line, MSN Money, and Form 10-Ks filed with the Securities and Exchange Commission (<http://www.sec.gov/>)

[E]: [B]+[D]

[F]: [C]+[D]

Chaparral City Water Company Cost of Capital Calculation  
Selected Financial Data of Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]	[G]
<u>Company</u>	<u>Symbol</u>	<u>Spot Price</u> <u>10/23/2013</u>	<u>Book Value</u>	<u>Mkt To</u> <u>Book</u>	<u>Value Line</u> <u>Beta</u> <u><math>\beta</math></u>	<u>Raw</u> <u>Beta</u> <u><math>\beta_{raw}</math></u>
American States Water	AWR	27.76	11.86	2.3	0.70	0.52
California Water	CWT	21.28	11.69	1.8	0.65	0.45
Aqua America	WTR	25.18	8.00	3.1	0.60	0.37
Connecticut Water	CTWS	32.48	14.00	2.3	0.75	0.60
Middlesex Water	MSEX	21.10	12.05	1.8	0.70	0.52
SJW Corp	SJW	29.53	15.28	1.9	0.85	0.75
York Water	YORW	21.10	8.19	2.6	0.70	0.52
Average				2.3	0.71	0.53

[C]: Msn Money

[D]: Value Line

[E]: [C] / [D]

[F]: Value Line

[G]:  $(-0.35 + [F]) / 0.67$

Chaparral City Water Company Cost of Capital Calculation  
 Calculation of Expected Infinite Annual Growth in Dividends  
 Sample Water Utilities

[A]	[B]
<u>Description</u>	<u>g</u>
DPS Growth - Historical <sup>1</sup>	3.6%
DPS Growth - Projected <sup>1</sup>	5.5%
EPS Growth - Historical <sup>1</sup>	5.1%
EPS Growth - Projected <sup>1</sup>	5.6%
Sustainable Growth - Historical <sup>2</sup>	5.1%
<u>Sustainable Growth - Projected<sup>2</sup></u>	<u>6.2%</u>
Average	5.2%

<sup>1</sup> Schedule JAC-5

<sup>2</sup> Schedule JAC-6

Chaparral City Water Company Cost of Capital Calculation  
Multi-Stage DCF Estimates  
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]
Company	Current Mkt. Price ( $P_0$ ) <sup>1</sup> 10/23/2013	Projected Dividends <sup>2</sup> (Stage 1 growth) ( $D_t$ )				Stage 2 growth <sup>3</sup> ( $g_n$ )	Equity Cost Estimate ( $K$ ) <sup>4</sup>
		$d_1$	$d_2$	$d_3$	$d_4$		
American States Water	27.8	0.76	0.80	0.84	0.89	6.5%	9.2%
California Water	21.3	0.65	0.68	0.71	0.75	6.5%	9.4%
Aqua America	25.2	0.59	0.62	0.66	0.69	6.5%	8.8%
Connecticut Water	32.5	1.01	1.07	1.12	1.18	6.5%	9.5%
Middlesex Water	21.1	0.79	0.83	0.87	0.92	6.5%	10.1%
SJW Corp	29.5	0.73	0.77	0.81	0.85	6.5%	8.9%
York Water	21.1	0.58	0.61	0.64	0.68	6.5%	9.2%

$$P_0 = \sum_{t=1}^n \frac{D_t}{(1+K)^t} + \frac{D_n(1+g_n)}{K-g_n} \left[ \frac{1}{(1+K)} \right]^n$$

Average 9.3%

Where :  $P_0$  = current stock price  
 $D_t$  = dividends expected during stage 1  
 $K$  = cost of equity  
 $n$  = years of non - constant growth  
 $D_n$  = dividend expected in year n  
 $g_n$  = constant rate of growth expected after year n

<sup>1</sup> [B] see Schedule JAC-7

<sup>2</sup> Derived from Value Line Information

<sup>3</sup> Average annual growth in GDP 1920 - 2012 in current dollars.

<sup>4</sup> Internal Rate of Return of Projected Dividends

**EXHIBIT**

**JAC-A**

**COMPANY:** CHAPARRAL CITY WATER COMPANY  
**DOCKET NO:** W-02113A-13-0118

**Response provided by:** Pauline Ahern

**Title:** Consultant for CCWC

**Address:** 2355 W. Pinnacle Peak Road, Suite 300  
Phoenix, AZ 85027

**Company Response Number:** STF JAC 1.2

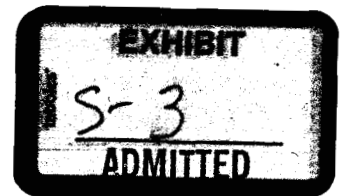
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**Q:** In Ms. Ahern's testimony (see Table 2, p. 7) and Exhibit PMA-1, Schedule 1, (p. 1 of 2), the indicated cost of equity cost rate before consideration of adjustments for credit/business risk is 10.48%. Ms. Ahern arrived at this 10.48% cost rate utilizing estimates derived from three different cost of equity methodologies: DCF (8.84%), Risk Premium Model (11.04%), and CAPM (10.75%). However, the arithmetic mean of those three estimates equate to cost of equity of 10.21%  $((8.84\% + 11.04\% + 10.75\%) / 3 = 10.21\%)$ , a figure 27 basis points lower than her 10.48% figure. In light of this fact, please indicate:

- a) The reason(s) why Ms. Ahern elected to use a mathematical computation other than the arithmetic mean of her 10.48% indicated cost of common equity; and
- b) Identify where, in the narrative of her Direct Testimony, Ms. Ahern provides an explanation of the computation used to calculate her 10.48% indicated cost of common equity.

**A:**

- a) The evaluation of the investors' required rate of return on their common stock investment, i.e., cost rate of common equity capital, is not a mechanistic, mathematical exercise, but rather an exercise based upon informed, expert judgment. Therefore, in an attempt to emulate investor behavior, Ms. Ahern did not simply rely upon a mechanical calculation of the average or median of the results of her application of multiple cost of common equity cost rate models. Instead, in addition to considering the mean and median costs of common equity model results, she also considered the range of these results when formulating an indicated common equity cost rate before adjustment for the increased investment risk of Chaparral City Water Company.
- b) Ms. Ahern does not provide an explanation of the "computation" of the 10.48% indicated common equity cost rate before adjustment for increase investment risk in her Direct Testimony.



BEFORE THE ARIZONA CORPORATION COMMISSION

BOB STUMP  
Chairman  
GARY PIERCE  
Commissioner  
BRENDA BURNS  
Commissioner  
SUSAN BITTER SMITH  
Commissioner  
BOB BURNS  
Commissioner

IN THE MATTER OF THE APPLICATION OF ) DOCKET NO. W-02113A-13-0118  
CHAPARRAL CITY WATER COMPANY FOR )  
A DETERMINATION OF THE CURRENT FAIR )  
VALUE OF ITS UTILITY PLANT AND )  
PROPERTY AND FOR INCREASE IN ITS )  
RATES AND CHARGES BASED THEREON. )

SURREBUTTAL  
TESTIMONY  
OF  
JOHN A. CASSIDY  
PUBLIC UTILITIES ANALYST  
UTILITIES DIVISION  
ARIZONA CORPORATION COMMISSION

FEBRUARY 7, 2013



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**EXECUTIVE SUMMARY  
CHAPARRAL CITY WATER COMPANY  
DOCKET NO. W-02113A-13-0118**

The surrebuttal testimony of Staff witness John A. Cassidy addresses the following issues:

Capital Structure – Staff recommends that the Commission adopt a hypothetical capital structure for Chaparral City Water Company (“CCWC” or “Company”) for this proceeding consisting of 40.0 percent debt and 60.0 percent equity.

Cost of Equity – Staff recommends that the Commission adopt a 9.6 percent return on equity (“ROE”) for the Company. Staff’s estimated ROE for the Company is based on the 9.0 percent average of its discounted cash flow method (“DCF”) cost of equity methodology estimates for the sample companies of 8.6 percent for the constant-growth DCF model and 9.4 percent for the multi-stage DCF model. Staff’s recommended ROE includes an upward economic assessment adjustment of 60 basis points (0.6 percent).

Cost of Debt – Staff recommends that the Commission adopt a 5.2 percent cost of debt for the Company.

Overall Rate of Return – Staff recommends that the Commission adopt a 7.9 percent overall rate of return.

Ms. Ahern’s Testimony – The Commission should reject the Company’s proposed 10.50 percent ROE for the following reasons:

Ms. Ahern’s single-stage constant growth DCF estimates rely exclusively on analysts’ forecasts of earnings per share growth to calculate the dividend growth (g) component. Ms. Ahern overstates the current dividend yield ( $D_0/P_0$ ) component by using a 60-day average stock price ( $P_0$ ) value. Ms. Ahern’s risk-premium model cost of equity estimates derived from the CAPM, ECAPM and PRPM models are inflated due to the use of a risk-free ( $R_f$ ) rate based upon forecasted estimates of the 30-year U.S. Treasury yield. Ms. Ahern’s recommended cost of equity includes an upward 32 basis point credit risk adjustment and an upward 40 basis point business risk adjustment.

1     **I.     INTRODUCTION**

2     **Q.     Please state your name, occupation, and business address.**

3     A.     My name is John A. Cassidy. I am a Public Utilities Analyst employed by the Arizona  
4            Corporation Commission ("Commission") in the Utilities Division ("Staff"). My business  
5            address is 1200 West Washington Street, Phoenix, Arizona 85007.

6  
7     **Q.     Are you the same John A. Cassidy who filed direct testimony in this case?**

8     A.     Yes, I am.  
9

10    **Q.     What is the purpose of your surrebuttal testimony in this rate proceeding?**

11    A.     The purpose of my surrebuttal testimony is to respond to the cost of capital rebuttal  
12            testimony of Chaparral City Water Company ("CCWC" or "Company") witness, Pauline  
13            M. Ahern ("Ms. Ahern's Rebuttal").  
14

15    **Q.     Please explain how Staff's surrebuttal testimony is organized.**

16    A.     Staff's surrebuttal testimony is presented in three sections. Section I is this introduction.  
17            Section II presents Staff's comments on the rebuttal testimony of the Company's cost of  
18            capital witness, Ms. Ahern. Lastly, Section III presents Staff's recommendations.  
19

**II. STAFF RESPONSE TO COMPANY'S COST OF CAPITAL WITNESS MS. PAULINE M. AHERN**

**Q. Please summarize the capital structure, cost of debt, cost of equity, and overall rate of return proposed in MS. Ahern's rebuttal.**

**A.** Ms. Ahern's rebuttal proposes a revised capital structure for the Company consisting of 14.45 percent debt and 85.55 percent equity,<sup>1</sup> a 5.97 percent cost of debt and an updated 10.5 percent cost of equity, resulting in an overall rate of return ("ROR") for CCWC of 9.85 percent.

**Q. In her rebuttal testimony, Ms. Ahern takes exception to Staff's recommended hypothetical 40 percent debt / 60 percent equity capital structure, citing Mr. Cassidy's testimony in a prior rate case, Rio Rico Utilities, Inc. ("Rio Rico"),<sup>2</sup> in which Staff found use of a hypothetical capital structure to be inappropriate.<sup>3</sup> Would Staff care to respond?**

**A.** Yes. In the Rio Rico case cited by Ms. Ahern, the circumstances were such that Staff did, indeed, determine that use of a hypothetical capital structure was not appropriate for that filing. In the Rio Rico docket cited by Ms. Ahern, Staff recommended use of the utility's actual 100.0 percent equity capital structure, with a downward Hamada financial risk adjustment being made to the cost of equity. Staff did not make a Hamada financial risk adjustment in its CCWC recommendation. So development of Staff's recommendations in the Rio Rico filing went beyond the simple fact that Staff utilized a hypothetical capital structure in that docket. Each case stands on its own, and it is not appropriate for Ms. Ahern to taken an exception to a previous Staff position while taking her observations out of the full context of that previous recommendation.

---

<sup>1</sup> See Ahern Rebuttal, Executive Summary (p. 3, lines 20-22); and Hubbard Rebuttal, Schedule D-1 Rebuttal and Schedule D-2 Rebuttal.

<sup>2</sup> Docket No. WS-02676A-12-0196.

<sup>3</sup> See Ahern Rebuttal, p. 9, at 14-21, and p. 9, footnote 4.

1 **Q. Why did Staff elect to recommend use of a hypothetical capital structure for**  
2 **CCWC?**

3 A. There were a number of reasons. As noted in Staff's direct testimony, these included the  
4 need to give recognition to CCWC's reduced exposure to financial risk relative to Staff's  
5 proxy group of companies,<sup>4</sup> to encourage CCWC to move towards a more balanced  
6 capital structure going forward,<sup>5</sup> and because Staff considers a balanced capital structure  
7 for a Class "A" utility to be one in which the debt component lies within a range of 40-60  
8 percent.<sup>6</sup> Additionally, this CCWC docket marks the first rate case in which Staff has  
9 relied on estimates derived from its DCF cost of equity models only.<sup>7</sup> Staff notes with  
10 some interest that the Company did not choose to dispute or challenge this aspect of  
11 Staff's current recommendation, presumably because that elements of Staff's current  
12 approach to cost of equity analysis worked in the Company's favor. Staff is not required  
13 to conform to any particular methodology to give recognition to the absence of financial  
14 risk exposure, and thus determined that use of a hypothetical capital structure for CCWC  
15 was appropriate.

16  
17 **Q. Since filing direct testimony in this docket, has Staff been made privy to information**  
18 **which bears out the propriety of using a hypothetical capital structure for CCWC?**

19 A. Yes. Staff recently obtained a copy of the Company's responses to data requests issued  
20 by RUCO which demonstrate significant variances between the capital structures of  
21 CCWC as an operating subsidiary (i.e., 15.5 percent debt and 84.5 percent equity), the  
22 capital structure of CCWC's immediate parent, EPCOR Water Arizona<sup>8</sup> (i.e., 61.2  
23 percent debt and 38.8 percent equity), and the capital structure of CCWC's ultimate

<sup>4</sup> See Cassidy Direct, p. 9, lines 11-13.

<sup>5</sup> See Cassidy Direct, p. 9, lines 19-21.

<sup>6</sup> See Cassidy Direct, p. 10, lines 9-11.

<sup>7</sup> See Cassidy Direct, pp. 3-4, for discussion as to why Staff elected not to rely on estimates derived from the CAPM.

<sup>8</sup> The December 31, 2012 year end capital structure for EPCOR Water Arizona was provided pursuant to a response to RUCO data request 11.02b.

1 parent, EPCOR Utilities, Inc.<sup>9</sup> (i.e., 46.9 percent debt and 53.1 percent equity). As a  
2 consequence, Staff now has concerns that use of CCWC's reported December 31, 2012  
3 test-year end capital structure in this rate proceeding may harm ratepayers, as the  
4 Company's disproportionately high level of reported common equity may instead be  
5 supported by debt issued at the ultimate parent or intermediate parent level. This  
6 circumstance is commonly referred to as, double leverage.

7  
8 **Q. Why is double leverage a concern in a rate proceeding?**

9 A. If a parent company issues debt and allocates it down to a regulated utility subsidiary  
10 while characterizing this financial support as equity capital, and regulators allow such  
11 capital costs in calculating the utility's revenue requirement, then ratepayers would be  
12 required to pay the higher equity cost while the actual financial support provided by the  
13 parent company is lower cost debt.

14  
15 **Q. What evidence does Staff have that double leverage is present in CCWC's proposed  
16 capital structure?**

17 A. Given the fungible nature of money, demonstrating proof of double leverage is  
18 admittedly difficult. However, as shown in Exhibit JAC-A, for the year ended December  
19 31, 2012, the 84.5 percent equity component of CCWC's proposed capital structure is  
20 higher than the 53.1 percent equity component of its ultimate parent, EPCOR Utilities,  
21 Inc., and significantly higher than the 38.8 percent equity component of its immediate  
22 parent, EPCOR Water Arizona. Staff considers these variances in capital structure  
23 between CCWC and both its ultimate and immediate parent to be *prima facie* evidence  
24 that double leverage is present.

25  

---

<sup>9</sup> The December 31, 2012 year end capital structure for EPCOR Utilities, Inc. was provided pursuant to a response to RUCO data request 11.02a.

1 Q. Does Staff believe that the vastly different observable differences in capital  
2 structure mix between CCWC, its ultimate parent and its immediate parent provide  
3 support for the reasonableness of Staff's recommended hypothetical 40 percent debt  
4 / 60 percent equity capital structure in this docket?

5 A. Yes.

6  
7 Q. In her rebuttal testimony, Ms. Ahern points out that CCWC has historically been  
8 regulated based upon its actual capital structure. How does Staff respond?

9 A. Staff did recommend approval of CCWC's actual capital structure in the Company's last  
10 rate case, and it was adopted by the Commission in Decision No. 71308.<sup>10</sup> However, at  
11 that time CCWC was owned by American States Water ("AWR"), and EPCOR did not  
12 acquire an ownership position in CCWC until 2011.<sup>11</sup> Thus, for the reasons noted earlier,  
13 Staff feels that use of the Company's proposed capital structure is not warranted in this  
14 rate proceeding.

15  
16 Q. In her rebuttal testimony, Ms. Ahern argues that Staff's recommended hypothetical  
17 capital structure and 9.3 percent cost of equity leads to an "egregious" 1.68 percent  
18 equity risk premium for the Company and violates the economic principle of  
19 opportunity cost.<sup>12</sup> How does Staff respond?

20 A. First, Staff's updated recommended cost of equity for the Company is now 9.6 percent.  
21 Second, given the presence/appearance of double leverage, Ms. Ahern's criticism of

---

<sup>10</sup> Docket No. W-02113A-07-0551.

<sup>11</sup> Pursuant to disclosures (Note 19 – Discontinued Operations) made in the 2010 Form 10-K and 2011 Form 10-K filed by American States Water with the Federal Securities and Exchange Commission, EPCOR Water (USA) Inc. acquired CCWC from AWR in 2011. AWR entered into a stock purchase agreement with EPCOR on June 10, 2010, the terms of which called for EPCOR to purchase all of the common shares of CCWC for a total purchase price of \$35.0 million, including the assumption of approximately \$6.0 million of long-term debt. Upon closing, EPCOR was to pay approximately \$29.0 million in cash to AWR. The sale of CCWC by AWR to EPCOR Water (USA) closed on May 31, 2011, with EPCOR paying AWR approximately \$29.0 million in cash on that date.

<sup>12</sup> See Ahern Rebuttal, p. 10 at 23 – p. 12 at 9.

1 Staff's cost of equity recommendations have been rendered moot, as ratepayers should  
2 not be expected to pay, in rates, an equity return on capital whose source is lower cost  
3 debt.

4  
5 **III. STAFF RECOMMENDATIONS**

6 **Q. Based on Staff's review of Ms. Ahern's rebuttal testimony and its updated cost of**  
7 **capital analysis, what are Staff's recommendations for the Company?**

8 **A. Yes. Staff recommends the following for CCWC's cost of capital:**

- 9 1. A capital structure of 40.0 percent debt and 60.0 percent equity.  
10 2. A 5.2 percent cost of debt.  
11 3. A 9.6 percent return on equity (a figure which includes an upward 60 basis point (0.6  
12 percent) economic assessment adjustment).  
13 4. A 7.9 percent overall rate of return.

14  
15 **Q. Does this conclude your surrebuttal testimony?**

16 **A. Yes, it does.**



Chaparral City Water Company Cost of Capital Calculation  
Capital Structure  
And Weighted Average Cost of Capital  
Staff Recommended and Company Proposed

[A]	[B]	[C]	[D]
<u>Description</u>	<u>Weight (%)</u>	<u>Cost</u>	<u>Weighted Cost</u>
<b>Staff Recommended Structure</b>			
Debt	40.0%	5.2%	2.1%
Common Equity	60.0%	9.6%	5.8%
Weighted Average Cost of Capital			7.9%
<b>Company Proposed Structure</b>			
Debt	14.45%	5.97%	0.86%
Common Equity	85.55%	10.50%	8.98%
Weighted Average Cost of Capital			9.85%

[D] : [B] x [C]

Supporting Schedules: JAC-2, JAC-3 and JAC-4.

Intentionally left blank

[A] [B] [C] [D] [E]

**1 MSN Money and Value Line**  
**2 Schedule JAC-8**

Chaparral City Water Company Cost of Capital Calculation  
Average Capital Structure of Sample Water Utilities

[A]	[B]	[C]	[D]
<u>Company</u>	<u>Debt</u>	<u>Common Equity</u>	<u>Total</u>
American States Water	43.3%	56.7%	100.0%
California Water	54.2%	45.8%	100.0%
Aqua America	55.2%	44.8%	100.0%
Connecticut Water	55.3%	44.7%	100.0%
Middlesex Water	43.1%	56.9%	100.0%
SJW Corp	56.2%	43.8%	100.0%
York Water	<u>45.0%</u>	<u>55.0%</u>	<u>100.0%</u>
Average Sample Water Utilities	<b>50.3%</b>	<b>49.7%</b>	<b>100.0%</b>
Chaparral City - Actual Capital Structure	<b>15.5%</b>	<b>84.5%</b>	<b>100.0%</b>

Source:

Sample Water Companies from Value Line

Chaparral City Water Company Cost of Capital Calculation  
Growth in Earnings and Dividends  
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]
<u>Company</u>	Dividends Per Share 2003 to 2013 <u>DPS<sup>1</sup></u>	Dividends Per Share Projected <u>DPS<sup>1</sup></u>	Earnings Per Share 2003 to 2013 <u>EPS<sup>1</sup></u>	Earnings Per Share Projected <u>EPS<sup>1</sup></u>
American States Water	5.6%	7.1%	14.8%	3.8%
California Water	1.3%	8.9%	4.5%	10.2%
Aqua America	7.6%	10.2%	9.6%	6.0%
Connecticut Water	1.7%	3.4%	3.7%	2.9%
Middlesex Water	1.5%	1.5%	5.1%	3.6%
SJW Corp	4.1%	5.4%	2.8%	7.5%
York Water	<u>4.1%</u>	<u>6.1%</u>	<u>4.8%</u>	<u>8.8%</u>
Average Sample Water Utilities	3.7%	6.1%	6.5%	6.1%

<sup>1</sup> Value Line

Chaparral City Water Company Cost of Capital Calculation  
Sustainable Growth  
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]
<u>Company</u>	Retention Growth 2002 to 2012 <u>br</u>	Retention Growth Projected <u>br</u>	Stock Financing Growth <u>vs</u>	Sustainable Growth 2002 to 2012 <u>br + vs</u>	Sustainable Growth Projected <u>br + vs</u>
American States Water	3.8%	5.2%	1.5%	5.3%	6.8%
California Water	2.6%	3.4%	1.7%	4.2%	5.1%
Aqua America	4.0%	5.2%	1.8%	5.8%	7.0%
Connecticut Water	2.0%	3.4%	4.2%	6.2%	7.6%
Middlesex Water	1.3%	2.8%	3.0%	4.2%	5.7%
SJW Corp	3.3%	3.8%	0.1%	3.5%	3.9%
York Water	<u>2.2%</u>	<u>3.4%</u>	<u>4.6%</u>	<u>6.8%</u>	<u>8.0%</u>
Average Sample Water Utilities	<b>2.7%</b>	<b>3.9%</b>	<b>2.4%</b>	<b>5.2%</b>	<b>6.3%</b>

[B]: Value Line

[C]: Value Line

[D]: Value Line, MSN Money, and Form 10-Ks filed with the Securities and Exchange Commission (<http://www.sec.gov/>)

[E]: [B]+[D]

[F]: [C]+[D]

Chaparral City Water Company Cost of Capital Calculation  
Selected Financial Data of Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]	[G]
<u>Company</u>	<u>Symbol</u>	<u>Spot Price</u> <u>1/15/2014</u>	<u>Book Value</u>	<u>Mkt To</u> <u>Book</u>	<u>Value Line</u> <u>Beta</u> <u><math>\beta</math></u>	<u>Raw</u> <u>Beta</u> <u><math>\beta_{raw}</math></u>
American States Water	AWR	27.42	11.98	2.3	0.65	0.45
California Water	CWT	22.49	11.78	1.9	0.60	0.37
Aqua America	WTR	22.78	8.08	2.8	0.60	0.37
Connecticut Water	CTWS	34.93	14.08	2.5	0.75	0.60
Middlesex Water	MSEX	20.48	12.14	1.7	0.75	0.60
SJW Corp	SJW	29.04	15.38	1.9	0.85	0.75
York Water	YORW	20.87	8.28	2.5	0.70	0.52
Average				2.2	0.70	0.52

[C]: Msn Money

[D]: Value Line

[E]: [C] / [D]

[F]: Value Line

[G]:  $(-0.35 + [F]) / 0.67$

Chaparral City Water Company Cost of Capital Calculation  
Calculation of Expected Infinite Annual Growth in Dividends  
Sample Water Utilities

[A]	[B]
<u>Description</u>	<u>g</u>
DPS Growth - Historical <sup>1</sup>	3.7%
DPS Growth - Projected <sup>1</sup>	6.1%
EPS Growth - Historical <sup>1</sup>	6.5%
EPS Growth - Projected <sup>1</sup>	6.1%
Sustainable Growth - Historical <sup>2</sup>	5.2%
<u>Sustainable Growth - Projected<sup>2</sup></u>	<u>6.3%</u>
Average	5.7%

<sup>1</sup> Schedule JAC-5

<sup>2</sup> Schedule JAC-6



Chaparral City Water Company Cost of Capital Calculation  
Multi-Stage DCF Estimates  
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]
Company	Current Mkt. Price ( $P_0$ ) <sup>1</sup>	Projected Dividends <sup>2</sup> (Stage 1 growth)				Stage 2 growth <sup>3</sup>	Equity Cost Estimate ( $K$ ) <sup>4</sup>
	1/15/2014	$d_1$	$d_2$	$d_3$	$d_4$	( $g_n$ )	
American States Water	27.4	0.78	0.82	0.87	0.92	6.5%	9.3%
California Water	22.5	0.68	0.71	0.75	0.80	6.5%	9.4%
Aqua America	22.8	0.60	0.63	0.67	0.71	6.5%	9.1%
Connecticut Water	34.9	1.01	1.06	1.12	1.19	6.5%	9.3%
Middlesex Water	20.5	0.78	0.83	0.88	0.92	6.5%	10.3%
SJW Corp	29.0	0.77	0.81	0.86	0.91	6.5%	9.1%
York Water	20.9	0.58	0.61	0.65	0.68	6.5%	9.2%

$$P_0 = \sum_{t=1}^n \frac{D_t}{(1+K)^t} + \frac{D_n(1+g_n)}{K-g_n} \left[ \frac{1}{(1+K)} \right]^n$$

Average      9.4%

Where :  $P_0$  = current stock price  
 $D_t$  = dividends expected during stage 1  
 $K$  = cost of equity  
 $n$  = years of non - constant growth  
 $D_n$  = dividend expected in year n  
 $g_n$  = constant rate of growth expected after year n

1 [B] see Schedule JAC-7

2 Derived from Value Line Information

3 Average annual growth in GDP 1929 - 2012 in current dollars.

4 Internal Rate of Return of Projected Dividends

**Comparison of Ultimate Parent, Immediate Parent, and Subsidiary Operating Unit Capital Structures**  
**(EPCOR Utilities, Inc., EPCOR Water Arizona, and Chaparral City Water Company)**  
**2008 - 2012**

**EPCOR Utilities, Inc.****Year End Capital Structures, 2008 - 2012**

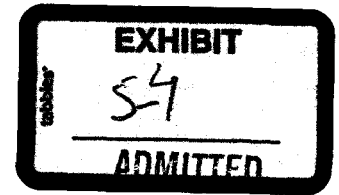
	2008		2009		2010		2011		2012	
	\$	%	\$	%	\$	%	\$	%	\$	%
Short-term debt	\$ 166		\$ 225		\$ 219		\$ 17		\$ 14	
Long-term debt	2,702		1,692		1,453		1,682		1,956	
Total Debt	2,868	53.9%	1,917	43.7%	1,672	41.7%	1,699	42.0%	1,970	46.9%
Common Shares	\$ 24		\$ 24		\$ 24		\$ 24		\$ 24	
Retained Earnings	2,429		2,446		2,318		2,327		2,210	
Total Equity	2,453	46.1%	2,470	56.3%	2,342	58.3%	2,351	58.0%	2,234	53.1%
Total Capital	\$ 5,321	100.0%	\$ 4,387	100.0%	\$ 4,014	100.0%	\$ 4,050	100.0%	\$ 4,204	100.0%

**EPCOR Water Arizona****Year End Capital Structures, 2008 - 2012**

	2008		2009		2010		2011		2012	
	\$	%	\$	%	\$	%	\$	%	\$	%
Long-term debt	\$194,768		\$184,112		\$195,565		\$195,454		\$240,337	
Short-term debt	57,941		69,340		60,318		49,090		-	
Total Debt	252,709	62.1%	253,452	62.1%	255,883	62.1%	244,544	60.3%	240,337	61.2%
Common Equity	\$154,506	37.9%	\$154,666	37.9%	\$156,292	37.9%	\$160,704	39.7%	\$152,248	38.8%
Total Capital	\$407,215	100.0%	\$408,118	100.0%	\$412,175	100.0%	\$405,248	100.0%	\$392,585	100.0%

**Chaparral City Water Company****2012 Year End Capital Structure**

	2012	
	\$	%
Long-term debt	\$ 4,935	
Short-term debt	-	
Total Debt	4,935	15.5%
Common Equity	\$ 26,901	84.5%
Total Capital	\$ 31,836	100.0%



Chaparral City Water Company Cost of Capital Calculation  
Sustainable Growth  
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]
Company	Retention Growth 2002 to 2012 br	Retention Growth Projected br	Stock Financing Growth vs	Sustainable Growth 2002 to 2012 br + vs	Sustainable Growth Projected br + vs
American States Water	3.8%	5.2%	1.5%	5.3%	6.8%
California Water	2.6%	3.4%	1.7%	4.2%	5.1%
Aqua America	4.0%	5.2%	1.8%	5.8%	7.0%
Connecticut Water	2.0%	3.6%	4.2%	6.2%	7.8%
Middlesex Water	1.3%	2.8%	3.0%	4.2%	5.7%
SJW Corp	3.3%	3.8%	0.1%	3.5%	3.9%
York Water	<u>2.2%</u>	<u>3.7%</u>	<u>4.6%</u>	<u>6.8%</u>	<u>8.3%</u>
Average Sample Water Utilities	<b>2.7%</b>	<b>4.0%</b>	<b>2.4%</b>	<b>5.2%</b>	<b>6.4%</b>

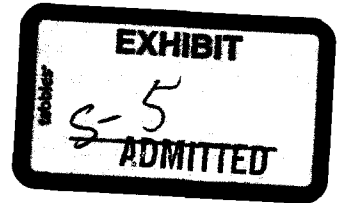
[B]: Value Line

[C]: Value Line

[D]: Value Line, MSN Money, and Form 10-Ks filed with the Securities and Exchange Commission (<http://www.sec.gov/>)

[E]: [B]+[D]

[F]: [C]+[D]



Chaparral City Water Company Cost of Capital Calculation  
Calculation of Expected Infinite Annual Growth in Dividends  
Sample Water Utilities

[A]	[B]
<u>Description</u>	<u>g</u>
DPS Growth - Historical <sup>1</sup>	3.7%
DPS Growth - Projected <sup>1</sup>	6.1%
EPS Growth - Historical <sup>1</sup>	6.5%
EPS Growth - Projected <sup>1</sup>	6.1%
Sustainable Growth - Historical <sup>2</sup>	5.2%
<u>Sustainable Growth - Projected<sup>2</sup></u>	<u>6.4%</u>
Average	5.7%

<sup>1</sup> Schedule JAC-5

<sup>2</sup> Schedule JAC-6

EXHIBIT

S-6  
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

BOB STUMP

Chairman

GARY PIERCE

Commissioner

BRENDA BURNS

Commissioner

BOB BURNS

Commissioner

SUSAN BITTER SMITH

Commissioner

IN THE MATTER OF THE APPLICATION )  
OF CHAPARRAL CITY WATER COMPANY )  
FOR A DETERMINATION OF THE CURRENT )  
FAIR VALUE OF ITS UTILITY PLANT AND )  
PROPERTY AND FOR AN INCREASE IN ITS )  
RATES AND CHARGES BASED THEREON )  
\_\_\_\_\_ )

DOCKET NO. W-02113A-13-0118

DIRECT

TESTIMONY

OF

KATRIN STUKOV

UTILITIES ENGINEER

ARIZONA CORPORATION COMMISSION

UTILITIES DIVISION

DECEMBER 18, 2013

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PURPOSE OF TESTIMONY .....	2
ENGINEERING REPORT .....	2

## **EXHIBITS**

Engineering Report .....	Exhibit KS
--------------------------	------------

**INTRODUCTION**

**Q. Please state your name, place of employment and job title.**

A. My name is Katrin Stukov. My place of employment is the Arizona Corporation Commission ("Commission"), Utilities Division ("Staff"), 1200 West Washington Street, Phoenix, Arizona 85007. My job title is Utilities Engineer.

**Q. How long have you been employed by the Commission?**

A. I have been employed by the Commission since June 2006.

**Q. Please list your duties and responsibilities.**

A. As a Utilities Engineer, specializing in water and wastewater engineering, I inspect and evaluate water and wastewater systems, obtain data, prepare reports, suggest corrective action, provide technical recommendations on water and wastewater system deficiencies, and provide written and oral testimony on rate and other cases before the Commission.

**Q. How many cases have you analyzed for the Utilities Division?**

A. I have analyzed over 80 cases covering various responsibilities for the Utilities Division.

**Q. What is your educational background?**

A. I graduated from the Moscow University of Civil Engineering with a Bachelor of Science degree in Civil Engineering with a concentration in water and wastewater systems.

**Q. Briefly describe your pertinent work experience.**

A. Prior to my employment with the Commission, I was a design review environmental engineer with the Arizona Department of Environmental Quality ("ADEQ") for twenty years. My responsibilities with ADEQ included review of projects for the construction of

1 water and wastewater facilities. Prior to that, I worked as a civil engineer in several  
2 engineering and consulting firms, including Bechtel, Inc. and Brown & Root, Inc., in  
3 Houston, Texas.  
4

5 **PURPOSE OF TESTIMONY**

6 **Q. Were you assigned to provide the Staff's engineering analysis and recommendations**  
7 **for this Chaparral City Water Company ("CCWC" or "Company") rate case**  
8 **proceeding?**

9 **A. Yes. I reviewed the Company's application and responses to data requests, and I visited**  
10 **the water system. This testimony and its attachment present Staff's engineering**  
11 **evaluation.**  
12

13 **ENGINEERING REPORT**

14 **Q. Please describe the attached Engineering Report, Exhibit KS.**

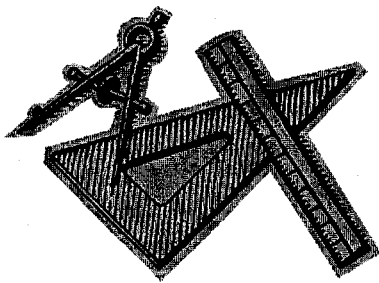
15 **A. Exhibit KS presents CCWC's water system details and Staff's analysis and findings, and**  
16 **is attached to this Direct Testimony. Exhibit KS contains the following major topics: (1) a**  
17 **description and analysis of the water system, (2) water use, (3) growth, (4) compliance**  
18 **with the rules of ADEQ and the Arizona Department of Water Resources ("ADWR"), (5)**  
19 **depreciation rates, (6) Best Management Practices ("BMPs"), (7) System Improvement**  
20 **Benefits Mechanism ("SIB") eligible projects and (8) Staff's conclusions and**  
21 **recommendations.**  
22

23 **Q. Please summarize Staff's engineering conclusions and recommendations.**

24 **A. Such a summary is provided at the front of Exhibit KS.**  
25



- 1 Q. Does this conclude your Direct Testimony?
- 2 A. Yes, it does.



Engineering Report For  
Chaparral City Water Company  
Docket No. W-02113A-13-0118 (Rates)  
By Katrin Stukov  
Utilities Engineer  
September 25, 2013

## SUMMARY

### Conclusions

1. The Arizona Department of Environmental Quality ("ADEQ") or its formally delegated agent, the Maricopa County Environmental Services Department ("MCESD"), has reported that the Chaparral City Water Company's ("CCWC" or "Company") water system (PWS No. 07-017) is currently delivering water that meets water quality standards required by 40 C.F.R. 141 (National Primary Drinking Water Regulations) and Arizona Administrative Code, Title 18, Chapter 4.
2. Based on the Company's water use data for the test year, Arizona Corporation Commission ("ACC") Utilities Division Staff ("Staff") concludes that the Company's water system has adequate water supply and storage capacities to serve the present customer base and reasonable growth.
3. The Company's water system has a water loss of 13.9 percent. This percentage is above the recommended threshold amount of 10 percent.
4. The Company's water system is located in the Phoenix Active Management Area ("AMA").
5. The Arizona Department of Water Resources ("ADWR") has determined that the Company's water system is currently in compliance with ADWR requirements governing water providers and/or community water systems.
6. The Company has no outstanding ACC compliance issues.
7. The Company has an approved curtailment plan and backflow prevention tariffs on file with the ACC.

## Recommendations

1. Staff recommends that the Company's reported annual water testing expense of \$21,754 be accepted for this proceeding.
2. Staff recommends the depreciation rates delineated in Table A.
3. Staff recommends the acceptance of the Company's requested service line and meter installation charges, as delineated in Table B.
4. Staff recommends approval of the Best Management Practices ("BMPs") listed in attachments A and B. Staff further recommends that the Company notify its customers, in a form acceptable to Staff, of the BMP tariffs authorized in this proceeding and their effective date by means of either an insert in the next regularly scheduled billing or by a separate mailing and provide copies of the BMP tariffs to any customer, upon request. The Company may request cost recovery of actual expenses associated with the BMPs implemented in its next general rate application.
5. Staff recommends that the Company ensure the accuracy of all meters in its water system (including meters indicating gallons purchased/pumped) and be required to report accurate information in its Water Use Data Sheet in future Annual Reports and other filings.
6. Staff recommends that the Company continue to record and monitor monthly water losses, repair any leak as soon as it is discovered and implement a deteriorating infrastructure replacement plan as discussed in the Company's System Improvement Benefits Mechanism ("SIB") Eligibility Report and SIB Plant Table I.
7. Staff recommends approval of the Company's SIB Plant Table I eligible projects for purpose of SIB approval.
8. If the Commission approves a SIB, Staff recommends that the Company be required to file with Docket Control, as a compliance item in this docket, within 30 days, of the effective date of this Decision, a Plan of Administration ("POA") for the SIB mechanism, consistent with Attachment C for Staff review and approval.

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## ATTACHMENTS

BMP Tariffs (BMPs 1.1, 2.2, 2.3, 3.1, 3.4, 3.6, 3.7, 4.1 and 5.2) Recommended by Staff .....	A
Meter Repair and/or Replacement Tariff (BMP 4.2) Recommended by Staff .....	B
SIB Plan of Administration .....	C

## **I. INTRODUCTION AND LOCATION OF COMPANY**

On April 26, 2012, the Chaparral City Water Company ("CCWC" or "Company") filed a rate application with the Arizona Corporation Commission ("ACC" or "Commission").

The CCWC water system is located within the Town of Fountain Hills in Maricopa County and provides water service to approximately 13,600 customers.

The Company's certificated area covers approximately 19 square miles (approximately 12,120 acres). Figure 1 shows the location of CCWC within Maricopa County and Figures 2 delineate the Company's certificated area.

The Company plant facilities were visited on August 14, 2013, by Katrin Stukov, Commission Utilities Division Staff ("Staff") Engineer, accompanied by the Company's representatives, Jeffrey Stuck, Paul Cornejo, James Moore, Candace Coleman, Sheryl Hubbard, Sandy Murrey, Don Long and Travis Nuttall.

Figure 1

# MARICOPA COUNTY

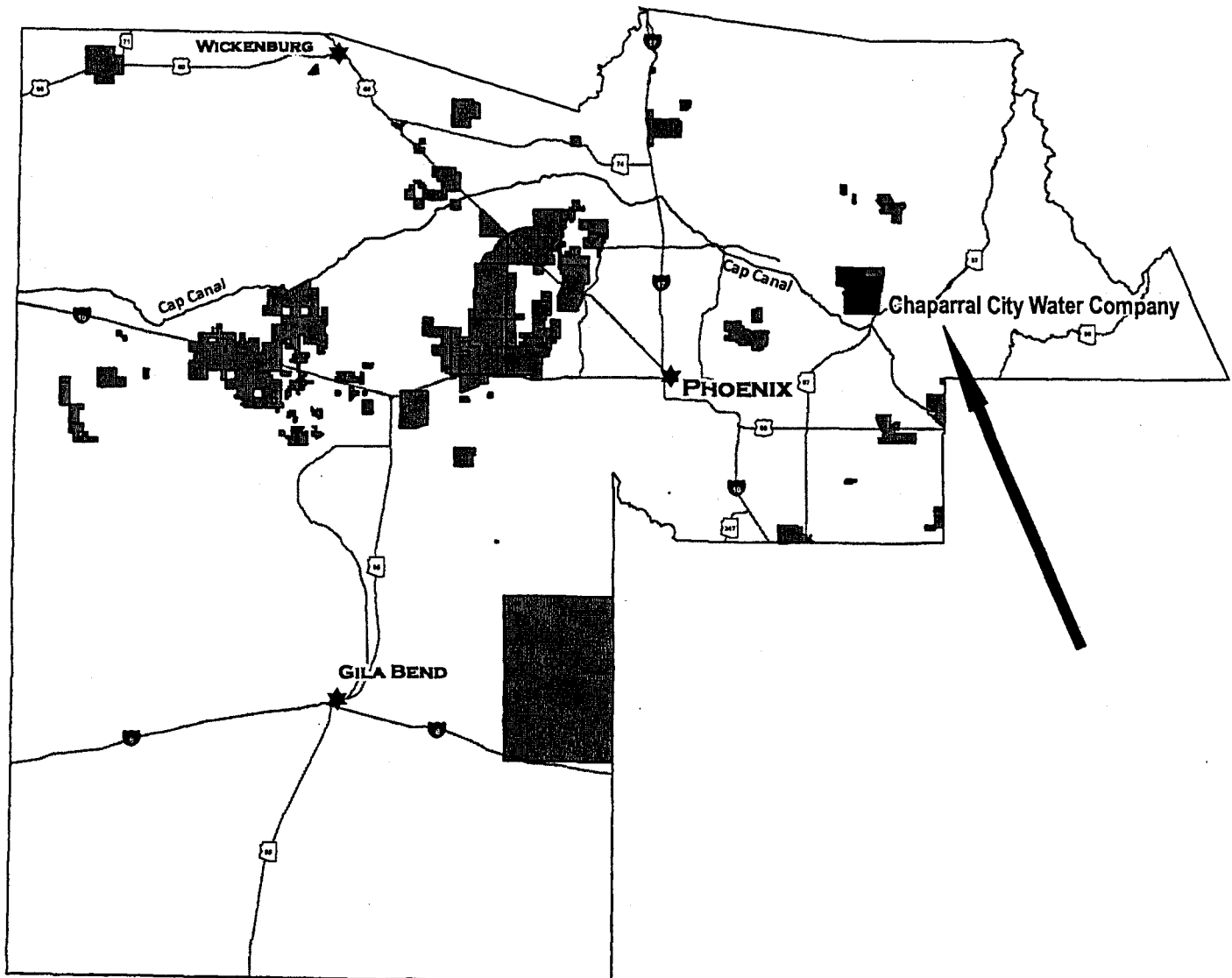
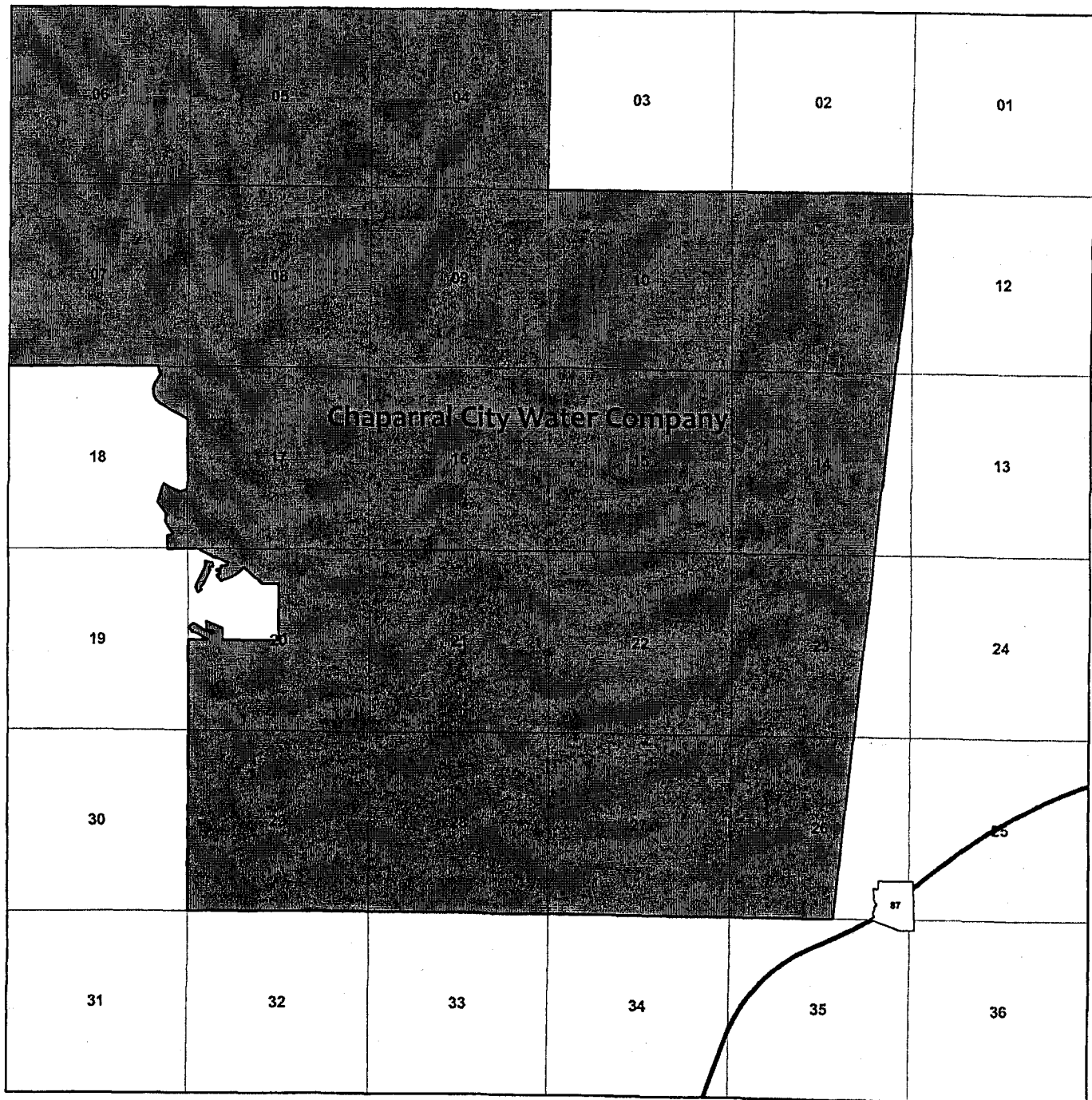


Figure 2

M A R I C O P A   C O U N T Y



## II. WATER SYSTEM

### 1. Description of the Water System

The CCWC water system relies on two sources of water supply. The primary source is the surface water from the Central Arizona Project ("CAP") canal.<sup>1</sup> The CAP water is transported via a pump station and a five mile transmission line to a 3.5 million gallon raw water storage tank at the Shea Water Treatment Plant ("SWTP"), which has a treatment capacity of 15 million gallons per day ("MGD").

The second source is the groundwater from the Company's Well No.10. According to the Company, Well No.10 has arsenic concentration up to 15 parts per billion ("ppb") and exceeds the Environmental Protection Agency's ("EPA") arsenic standard of 10 ppb. Consequently, in April 2013, the Company installed an arsenic removal system ("ARS") for this well.

The current operation of the water system consists of one CAP intake pump station, one transmission line, one raw water storage tank, one surface water treatment plant, one well, one ARS, eight potable water storage tanks, seven potable water pump stations and a distribution system, with four pressure zones. A system schematic is shown in Figure B-1 with detailed plant facility descriptions as follows:

CAP Intake Pump Station

Booster Pumps		Surge Tank		Location
Capacity (HP)	Quantity	Capacity (HP)	Quantity	
450	4 <sup>2</sup>	5,000	1	124 <sup>th</sup> St. & Shea

SWTP

Capacity (MGD)	Configuration/Process	Components	Date Placed in Service
15	Three-5MGD modules utilizing contact clarification-filtration treatment process	3.5 million gallons raw water storage tank, chemical injection system, adsorption clarifiers, sand filters, disinfection system, backwash system (with two 175 HP backwash pumps), finished water pump station (with two 200 HP pumps and two 75 HP pumps)	1998-First module 2005-Last module

<sup>1</sup> According to the Company, CAP water is purchased under a subcontract with the Central Arizona Water Conservation District ("CAWCD"), which operates the CAP.

<sup>2</sup> At the time of the Staff site visit, one booster pump was temporary out of service due to a pump and motor maintenance/ replacement.



Meters  
(Surface Water Facilities)

ID No.	Description / Location	Size (inches)
1 <sup>3</sup>	CAWCD raw water meter at CAP intake	24
2 <sup>4</sup>	CCWC raw water meter at SWTP	2
3	Backwash water meter at SWTP	10
4	Treated water meter at SWTP	18
5	Treated water meter at SWTP	12

Well Data

Company Well ID	ADWR Well ID	Pump (HP)	Pump Yield (GPM)	Casing Depth (feet)	Casing Diameter (inches)	Meter Size (inches)	Meter ID	Year Drilled
No.10	55-604786	350	1,700	735	20/16	10	No.6	1971
No.11	55-604787 (not in-service)	n/a	n/a	750	20/16	n/a	n/a	1972
No.8	55-604784 (not in-service)	n/a	n/a	725	11	n/a	n/a	1967
No.9	55-604785 (not in-service)	n/a	n/a	750	20/16	n/a	n/a	1970

Arsenic Removal System  
(Treatment/Bypass/Blend)

Treatment Flow Rate (GPM)	Configuration/Process	Manufacturer	Date Placed in Service (AOC)	Location	Meter No.7 Size (inches)
850 <sup>5</sup>	Two treatment vessels, parallel operation, utilizing adsorption process	Severn Trent	April 5, 2013	Well No.10	8

<sup>3</sup> Per Company's response number KS 2.2 (a), calibration of the CAWCD meter #1 was corrected on September 13, 2012.

<sup>4</sup> Per Company's response number KS 2.3, the CCWC meter #2 was not functional during the test year. This meter was replaced in May 2013.

<sup>5</sup> The ARS operation involves treating of 850 GPM (one-half) of the water produced by Well No.10 and blending it with 850 GPM of untreated Well No.10 water

## Potable Water Storage Tanks and Pump Stations

Storage Tanks		Pump Stations				Location	ID No.
		Pressure Tanks		Booster Pumps			
Capacity (gallons)	Quantity	Capacity (gallons)	Quantity	Capacity (HP)	Quantity		
500,000	1			40 60 120	1 1 1	Blackbird	1
1,500,000	1 <sup>6</sup>	10,000	1	75 100	1 1	Fountain Hills	2
1,300,000	1	5,000	1	40 60	1 1	Lotus	3
500,000	1			125	2	Golden Eagle	4
1,200,000	1	1,500 5,000	1 1	20 75 125	1 2 2	Mayan	5
1,200,000	1					Eagle Ridge	6
1,200,000	1	5,000	1	75 40	2 2	Crestview	7
500,000	1					Eagle Nest	8
				40 75	1 2	Copper wynd	8
Total: 7,400,000	8		5		21 booster pumps / 7 pump stations		

<sup>6</sup> Per Company's response number KS 2.6, the storage tank No.2 was taken out of service for rehabilitation on October 29, 2012 and was placed back in-service on April 10, 2013.

## Water Mains

Size (inches)	Material	Length (feet)
4	C900, AC, DIP	40,712
6	C900, AC, DIP	477,666
8	C900, AC, DIP	316,617
10	C900, AC, DIP	2,169
12	C900, AC, DIP	207,235
16	C900, AC, DIP	33,789
24	C900, AC, DIP	4,474
	Total:	1,082,662

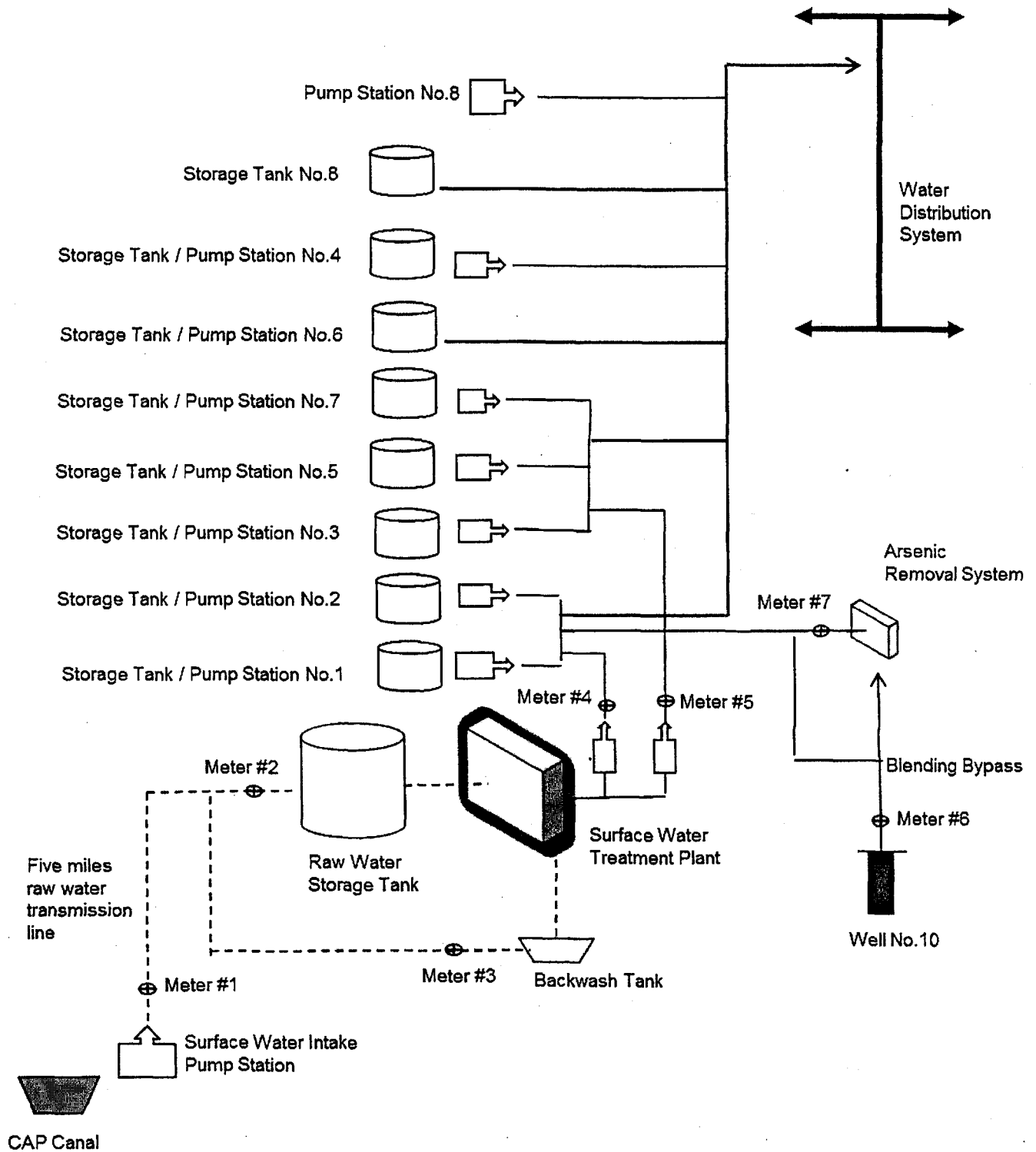
## Customer Meters

Size (inches)	Quantity
3/4	8,625
1	4,695
1-1/2	175
2	153
3	67
4	10
6	5
Total:	13,730

## Fire Hydrants

Size	Quantity
Standard	1,741

Figure 3 Water System Schematic

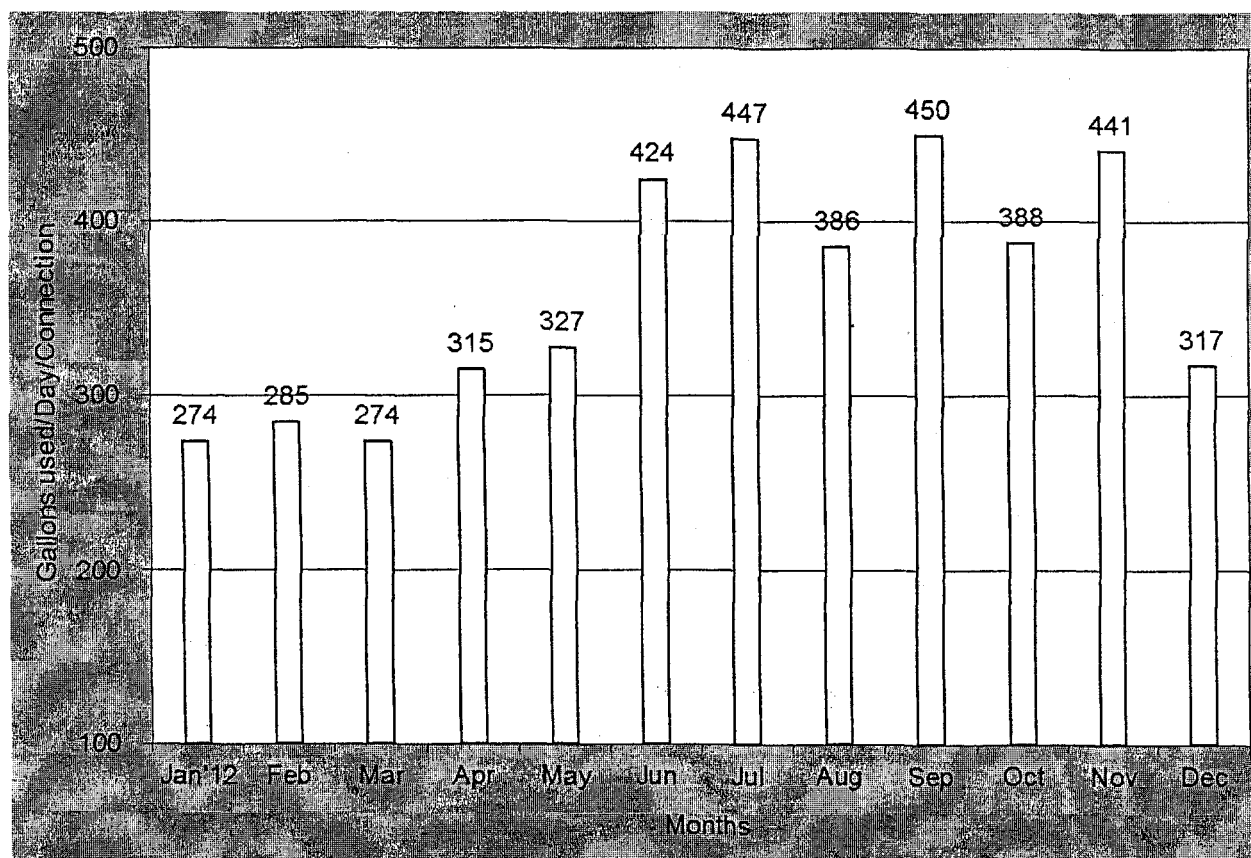


## 2. Water Use

### Water Sold

Figure 4 represents the water consumption data provided by the Company in its revised water use data sheet<sup>7</sup> for the test year ending December 31, 2012. The Company customer consumption included a high monthly water use of 450 gallons per day (“GPD”) per connection in September, and the low water use was 274 GPD per connection in January and March. The average annual use was 361 GPD per connection.

Figure 4 Water Use



### Non-account Water

Non-account water should be 10 percent or less, and never more than 15 percent. It is important to be able to reconcile the difference between water sold and the water produced by the source. A water balance will allow a company to identify water and revenue losses due to leakage, theft and flushing.

<sup>7</sup> Per Company's response number KS 2.2

The Company reported 2,133,717,000<sup>8</sup> gallons purchased/pumped, 1,786,417,000 gallons sold and 49,833,000 gallons of beneficial non-revenue uses<sup>9</sup>, resulting in a water loss of 13.9 percent. This percentage is above the recommended threshold amount of 10 percent.

Staff recommends that the Company ensure the accuracy of all meters in its water system (including meters indicating gallons purchased/pumped) and be required to report accurate information in its Water Use Data Sheet in future Annual Reports and other fillings.

Staff recommends that the Company continue to record and monitor monthly water losses, repair any leak as soon as it is discovered and implement a deteriorating infrastructure replacement plan as discussed in Section VIII in this report and System Improvement Benefits Mechanism ("SIB") Plant Table I.

### *3. System Analysis*

Based on the Company's water use data for the test year, Staff concludes that the water system's current source capacity totaling approximately 12,000 GPM and potable water storage capacity totaling 7,400,000 gallons is adequate to serve the present customer base and reasonable growth.

### *4. Growth*

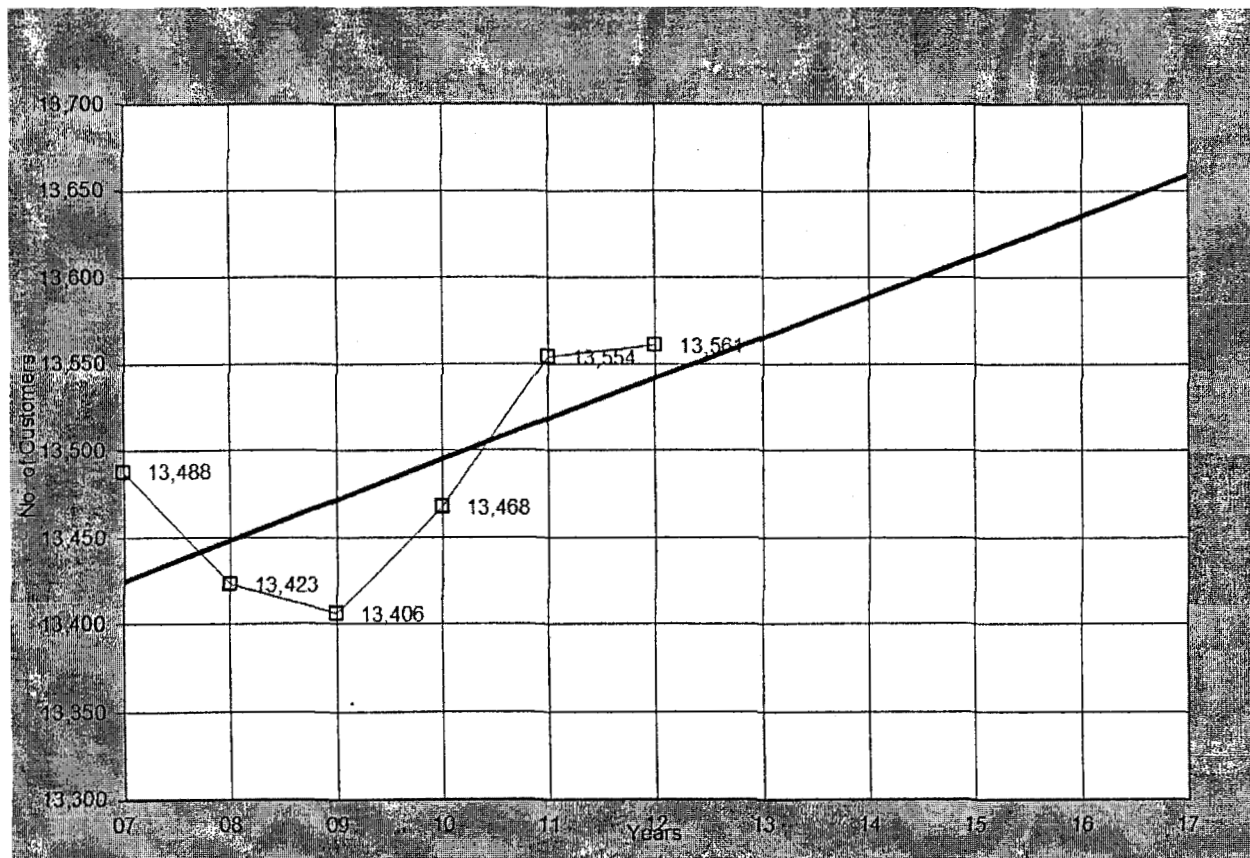
Based on customer data obtained from the Company's Annual Reports, it is projected that the Company's system could have over 13,650 connections by 2017. Figure 5 depicts actual growth from 2007 to 2012 and projects an estimated growth in the service area for the next five years using linear regression analysis. However, even though the regression analysis indicates minimum growth by 2017, actual growth could be much more if the economy improves.

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<sup>8</sup> Per Company's response number KS 2.1, the reported amount of Gallons Purchased from CAP was adjusted for 4.3% CAP meter #1 error.

<sup>9</sup> Per Company's response number KS 2.4, for the test year, the system's beneficial non-revenue water use included in-plant usage and flushing of water mains.

Figure 5



### III. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY ("ADEQ") COMPLIANCE

#### *Compliance*

ADEQ or its formally delegated agent, the MCESD, has reported that the Company's water system (PWS No. 07-017) is currently delivering water that meets water quality standards required by 40 C.F.R. 141 (National Primary Drinking Water Regulations) and Arizona Administrative Code, Title 18, Chapter 4.<sup>10</sup>

#### *Water Testing Expense*

The Company reported its water testing expenses for the test year in the "Miscellaneous" operating expenses account. The Company reported its adjusted water testing expenses for the test year at \$21,754.<sup>11</sup>

<sup>10</sup> Per MCESD Compliance Status Reports dated February 7, 2013.

<sup>11</sup> Per Company's Schedule C-2 and e-mail dated May 8, 2013.

Staff reviewed the Company's water testing expenses and recommends that the reported annual water testing expense of \$21,754 be accepted for this proceeding.

#### **IV. ARIZONA DEPARTMENT OF WATER RESOURCES ("ADWR") COMPLIANCE**

The Company's water system is located in the Phoenix AMA.

The ADWR has determined that the CCWC's water system is currently in compliance with ADWR requirements governing water providers and/or community water systems.<sup>12</sup>

#### **V. ACC COMPLIANCE**

A check with Utilities Division Compliance Section showed that there are currently no delinquent compliance items for the Company.<sup>13</sup>

#### **VI. DEPRECIATION RATES**

Staff has developed typical and customary depreciation rates within a range of anticipated equipment life. These rates are presented in Table A. Staff recommends that the Company adopt Staff's typical and customary depreciation rates in the accounts listed in Table A.

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<sup>12</sup> Per ADWR Compliance status check dated May 23, 2013.

<sup>13</sup> Per ACC Compliance status check dated May 29, 2013.



**TABLE A**  
**DEPRECIATION RATE TABLE FOR WATER COMPANIES**

NARUC Account No.	Depreciable Plant	Average Service Life (Years)	Annual Accrual Rate (%)
304	Structures & Improvements	30	3.33
305	Collecting & Impounding Reservoirs	40	2.50
306	Lake, River, Canal Intakes	40	2.50
307	Wells & Springs	30	3.33
308	Infiltration Galleries	15	6.67
309	Raw Water Supply Mains	50	2.00
310	Power Generation Equipment	20	5.00
311	Pumping Equipment	8	12.5
320	Water Treatment Equipment		
320.1	Water Treatment Plants	30	3.33
320.2	Solution Chemical Feeders	5	20.0
330	Distribution Reservoirs & Standpipes		
330.1	Storage Tanks	45	2.22
330.2	Pressure Tanks	20	5.00
331	Transmission & Distribution Mains	50	2.00
333	Services	30	3.33
334	Meters	12	8.33
335	Hydrants	50	2.00
336	Backflow Prevention Devices	15	6.67
339	Other Plant & Misc Equipment	15	6.67
340	Office Furniture & Equipment	15	6.67
340.1	Computers & Software	5	20.00
341	Transportation Equipment	5	20.00
342	Stores Equipment	25	4.00
343	Tools, Shop & Garage Equipment	20	5.00
344	Laboratory Equipment	10	10.00
345	Power Operated Equipment	20	5.00
346	Communication Equipment	10	10.00
347	Miscellaneous Equipment	10	10.00
348	Other Tangible Plant	----	----

**NOTES:**

1. These depreciation rates represent average expected rates. Water companies may experience different rates due to variations in construction, environment, or the physical and chemical characteristics of the water.
2. Account 348, Other Tangible Plant may vary from 5% to 50%. The depreciation rate would be set in accordance with the specific capital items in this account.

## VII. OTHER ISSUES

### 1. Service Line and Meter Installation Charges

The Company has requested changes in its service line and meter installation charges. Service line and meter installation charges are refundable advances. The Company has requested to reduce its current charges for smaller meters to reflect meter installation cost in the proposed SIB Plant Table I. For services and meters 2 inches and larger, the Company is requesting to charge these installation charges "at cost".

Staff recommends acceptance of the Company's requested installation charges as shown in Table B.

**Table B**  
**Service Line and Meter Installation Charges**

Company's Current Charges				Company's Requested Charges		
Meter Size	Service Line Charges	Meter Charges	Total Charges	Service Line Charges	Meter Charges	Total Charges
5/8x 3/4- inch	\$385	\$135	\$520	\$385	\$135	\$520
3/4- inch	\$385	\$215	\$600	\$385	\$195	\$580
1- inch	\$435	\$235	\$690	\$435	\$234	\$669
1 1/2- inch	\$470	\$465	\$935	\$470	\$367	\$837
2- inch Turbine	\$630	\$965	\$1,595	At Cost	At Cost	At Cost
2- inch Compound	\$630	\$1,690	\$2,320			
3- inch Turbine	\$805	\$1,470	\$2,275	At Cost	At Cost	At Cost
3- inch Compound	\$845	\$2,265	\$3,110			
4- inch Turbine	\$1,170	\$2,350	\$3,520	At Cost	At Cost	At Cost
4- inch Compound	\$1,230	\$3,245	\$4,475			
6- inch Turbine	\$1,730	\$4,545	\$6,275	At Cost	At Cost	At Cost
6- inch Compound	\$1,770	\$6,280	\$8,050			
8- inch or Larger	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost

### 2. Curtailment Plan Tariff

The Company has an approved curtailment plan tariff on file with the ACC.

### 3. Backflow Prevention Tariff

The Company has an approved backflow prevention tariff on file with the ACC.

#### 4. BMPs

EPCOR, the parent company of CCWC, has Commission-approved BMP tariffs in place in some of its other districts. The Company selected the following nine BMP's for implementation in its Chaparral system:

- Local and / or Regional Messaging Program Tariff - BMP 1.1
- Youth Conservation Educational Program Tariff - BMP 2.2
- New Homeowner Landscape Information Tariff – BMP 2.3
- Residential Audit Program Tariff – BMP 3.1
- Residential Interior Retrofit Tariff – BMP 3.4
- Customer High Water Use Inquiry Resolution Tariff – BMP 3.6
- Customer High Water Use Notification Tariff – BMP 3.7
- Leak Detection Program Tariff – BMP 4.1
- Water System Tampering Tariff – BMP 5.2

Staff recommends approval of the BMPs listed above for the Chaparral system. The tariffs recommended by Staff are labeled as Attachment A.

In addition to the above BMPs, CCWC filed its proposed Meter Repair and/or Replacement Tariff (BMP 4.2) in order to qualify for a meter replacements and improvements under SIB.<sup>14</sup> This BMP tariff was based on the template developed by Staff. The tariff that Staff and the Company reached agreement on generally conforms to the template developed by Staff. Therefore, Staff recommends approval of the Company's proposed Meter Repair and/or Replacement Tariff (BMP 4.2) in the form on which Staff and the Company reached agreement. The tariff recommended by Staff is labeled as Attachment B.

Staff further recommends that the Company notify its customers, in a form acceptable to Staff, of the BMP tariffs authorized in this proceeding and their effective date by means of either an insert in the next regularly scheduled billing or by a separate mailing and shall provide copies of the BMP tariffs to any customer, upon request. The Company may request cost recovery of actual expenses associated with the BMPs implemented in its next general rate application.

#### VIII. SIB

The Company is seeking a SIB to address distribution system infrastructure replacements and improvements to service existing customers. As a supplement to its application, the Company submitted a SIB Eligibility Report ("Report")<sup>15</sup> supporting the need for the proposed 5-year infrastructure replacements and improvements. The Report identifies the most critical areas, estimates the quantity of service lines, meters, hydrants and valves that need to be replaced, and

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<sup>14</sup> See Section VIII below.

<sup>15</sup> Exhibit CC-1, dated August 7, 2013(docketed on August 22, 2013)

estimates the associated replacement costs. In addition, the Report included a revised SIB Plant Table I<sup>16</sup> of planned SIB- eligible projects and related costs and an example of SIB Plant Table II.<sup>17</sup>

A summary of the Company's proposed 5-year infrastructure replacement plan is tabulated below:

Year	2014		2015		2016		2017		2018		5-Year Total	
Plant	units	cost	units	cost	units	cost	units	cost	nits	cost	units	cost
Services	247	\$958,558	221	\$857,656	256	\$993,485	260	\$1,009,008	231	\$896,465	1,216	\$4,715,172
Meters	1,507	\$314,989	1,357	\$317,509	1,327	\$277,493	1,588	\$328,953	1,418	\$306,835	7,197	\$1,545,779
Hydrants	41	\$92,726	35	\$79,157	37	\$83,680	37	\$83,679	36	\$81,418	186	\$420,660
Valves	95	\$453,491	103	\$495,043	88	\$436,776	74	\$353,676	89	\$430,795	449	\$2,169,781
Total		\$1,819,764		\$1,749,365		\$1,791,436		\$1,775,316		\$1,715,513		\$8,851,392

Staff has reviewed the Company's Report and the proposed 5-year infrastructure replacement plan at a cost of \$8,851,392 and found the proposal reasonable and appropriate. However, no "used and useful" determination of the proposed plant items was made, and no conclusions should be inferred for rate making or rate base purposes in the future.

If the Commission approves a SIB, Staff recommends that the Company be required to file with Docket Control, as a compliance item in this docket, within 30 days, of the effective date of this Decision, a Plan of Administration ("POA") for the SIB mechanism, consistent with Attachment C for Staff review and approval.

<sup>16</sup> Exhibit CC-2, dated August 21, 2013 (docketed on August 22, 2013)

<sup>17</sup> Exhibit CC-3, dated December 6, 2013 (docketed on December 6, 2013)

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**Local and/or Regional Messaging Program Tariff – BMP 1.1****PURPOSE**

A program for the Company to actively participate in a water conservation campaign with local or regional advertising (Modified Non-Per Capita Conservation Program BMP Category 1: Public Awareness/Public Relations 1.1: Local and/or Regional Messaging Program).

**REQUIREMENTS**

The requirements of this tariff are governed by Rules of the Arizona Corporation Commission and were adapted from the Arizona Department of Water Resources' Required Public Education Program and Best Management Practices in the Modified Non-Per Capita Conservation Program.

1. The Company or designated representative shall actively participate in water conservation campaign with local and/or regional advertising.
2. The campaign shall promote ways for customers to save water.
3. The Company shall facilitate the campaign through one or more of the following avenues (not an all inclusive list):
  - a. Television commercials
  - b. Radio commercials
  - c. Websites
  - d. Promotional materials
  - e. Vehicle signs
  - f. Bookmarks
  - g. Magnets
4. The Company shall keep a record of the following information and make it available to the Commission upon request:
  - a. A description of the messaging program implemented and program dates.
  - b. The number of customers reached (or an estimate).
  - c. Costs of Program implementation.

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## **Youth Conservation Education Program Tariff – BMP 2.2**

### **PURPOSE**

A program for the Company to promote water conservation by increasing students' understanding of water resources and the need to conserve (Modified Non-Per Capita Conservation Program BMP Category 2: Conservation Education and Training 2.2: Youth Conservation Education Program).

### **REQUIREMENTS**

The requirements of this tariff are governed by Rules of the Arizona Corporation Commission and were adapted from the Arizona Department of Water Resources' Required Public Education Program and Best Management Practices in the Modified Non-Per Capita Conservation Program.

1. The Company or designated representative shall work with schools in its service area to increase students' understanding of water resources and to promote water conservation.
2. The Company shall provide a combination of instructional assistance, education materials, teacher education, classroom presentations, and field trips to water related facilities.
3. The Company shall provide the following teacher resources.
  - a. Offer Project WET (Water Education for Teachers) workshops to teachers twice yearly. In lieu of Project WET the Company may market its Water Conservation Assembly Program to all schools within its service area. The Water Conservation Assembly Program will focus on teaching students about water resources and water conservation. The assembly itself will be an interactive water conservation discussion.
  - b. Provide free resource materials and information upon request.
  - c. Provide in-classroom presentations upon request.
4. The Company shall make available free take home educational materials for elementary school students.
5. The Company shall keep a record of the following information and make it available upon request.
  - a. A description of the youth conservation education process implemented.
  - b. The number of students reached (or an estimate).
  - c. A description of the written water conservation material provided free to students.
  - d. Costs of the Youth Conservation Education Program implementation.

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## **New Homeowner Landscape Information Tariff – BMP 2.3**

### **PURPOSE**

A program for the Company to promote the conservation of water by providing a landscape information package for the purpose of educating its new customers about low water use landscaping (Modified Non-Per Capita Conservation Program BMP Category 2: Conservation Education and Training 2.3: New Homeowner Landscape Information).

### **REQUIREMENTS:**

The requirements of this tariff are governed by Rules of the Arizona Corporation Commission and were adapted from the Arizona Department of Water Resources' Required Public Education Program and Best Management Practices in the Modified Non-Per Capita Conservation Program.

1. Upon establishment of water service the Company shall offer and make available upon request a free "Homeowner Landscape Packet" to each new customer in the Company's service area. The packet will include at a minimum: a cover letter describing the water conservation expectations for all customers in the Company's service area, applicable rate tariffs, a basic interior/exterior water saving pamphlet, xeriscape landscape information, a list of low water use trees, plants, shrubs, etc., watering guidelines, and a rain water harvesting pamphlet.
2. Upon customer request, the Company shall provide:
  - a. On-site consultations on low water use landscaping and efficient watering practices.
  - b. A summary of water saving options.
3. The Company shall keep a record of the number of packets provided to new customers and make it available to the Commission upon request.

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## **Residential Audit Program Tariff – BMP 3.1**

### **PURPOSE**

A program for the Company to promote water conservation by providing customers with information on performing water audits to determine conservation opportunities at their residence (Modified Non-Per Capita Conservation Program BMP Category 3: Outreach Services 3.1: Residential Audit Program).

### **REQUIREMENTS**

The requirements of this tariff are governed by Rules of the Arizona Corporation Commission and were adapted from the Arizona Department of Water Resources' Required Public Education Program and Best Management Practices in the Modified Non-Per Capita Conservation Program.

1. The Company shall offer self-audit information.
2. The Company or designated representative shall provide all customers that request them with a self-audit kit.
3. The kit shall include detailed instructions and tools for completing the water audit including information on how to check their water meter. The audit kit shall include but not be limited to information on checking the following components: irrigation system, pool, water features, toilets, faucets and shower.
4. If requested, the Company shall assist the customer in a self-water audit and assist the customer in determining what might be causing high water usage as well as supply customer with information regarding water conservation and landscape watering guidelines. As part of the water audit, and if requested to do so by the customer, the Company shall confirm the accuracy of the customer meter (applicable meter testing fees shall apply).
5. The Company shall keep a record of the following information and make it available to the Commission upon request:
  - a. A description of the water conservation material provided in the kit.
  - b. The number of kits provided to customers.
  - c. Implementation costs of the Residential Audit Program.



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## **Residential Interior Retrofit Program Tariff – BMP 3.4**

### **PURPOSE**

A program for the Company to promote water conservation by providing residential customers free or low cost plumbing fixtures for their residence (Modified Non-Per. Capita Conservation Program BMP Category 3: Outreach Services 3.4: Residential Interior Retrofit Program).

### **REQUIREMENTS**

The requirements of this tariff are governed by Rules of the Arizona Corporation Commission and were adapted from the Arizona Department of Water Resources' Required Public Education Program and Best Management Practices in the Modified Non-Per Capita Conservation Program.

1. The Company or designated representative shall provide to residential customers that request them that live in homes built prior to the adoption of the 1990 Uniform Plumbing Code free or low cost low water use fixtures such as faucets, faucet aerators, low flow shower heads, toilets and toilet dams. The Company must offer the fixtures/fixture retrofits to all residential customers meeting the above criteria unless the Company can demonstrate that targeting certain portions of its water service area is likely to yield the highest participation and/or potential water savings.
2. The fixtures or retrofit kit shall include detailed instructions for installing the retrofit fixtures.
3. The Company shall select appropriate communications channels to advertize the program.
4. The Company shall keep a record of the following information and make it available to the Commission upon request:
  - a. A description of the Residential Interior Retrofit Program including a description of the fixtures provided to customers and estimated water savings as a result of Program implementation.
  - b. The number of retrofit fixtures requested by customers and the number of fixtures provided.
  - c. Costs of the Residential Interior Retrofit Program.

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## **Customer High Water Use Inquiry Resolution Tariff – BMP 3.6**

### **PURPOSE**

A program for the Company to assist its customers with their high water-use inquiries and complaints (Modified Non-Per Capita Conservation Program BMP Category 3: Outreach Services 3.6: Customer High Water Use Inquiry Resolution).

### **REQUIREMENTS**

The requirements of this tariff are governed by Rules of the Arizona Corporation Commission and were adapted from the Arizona Department of Water Resources' Required Public Education Program and Best Management Practices in the Modified Non-Per Capita Conservation Program.

1. The Company shall handle high water use inquiries as calls are received.
2. Calls shall be taken by a customer service representative who has been trained on typical causes of high water consumption as well as leak detection procedures that customers can perform themselves.
3. Upon request by the customer or when the Company determines it is warranted, a trained Field Technician shall be sent to the customer's residence to verify consumption and conduct a leak detection inspection and further assist the customer with water conservation measures.
4. The Company shall follow up on every customer inquiry or complaint and keep a record of inquiries and follow-up activities. The Company shall make this information available to the Commission upon request.

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## **Customer High Water Use Notification Tariff – BMP 3.7**

### **PURPOSE**

A program for the Company to monitor and notify customers when water use seems to be abnormally high and provide information that could benefit those customers and promote water conservation (Modified Non-Per Capita Conservation Program BMP Category 3: Outreach Services Program 3.7: Customer High Water Use Notification).

### **REQUIREMENTS**

The requirements of this tariff are governed by Rules of the Arizona Corporation Commission and were adapted from the Arizona Department of Water Resources' Required Public Education Program and Best Management Practices in the Modified Non-Per Capita Conservation Program.

1. The Company shall track water usage for each customer and notify the customer if water use seems excessive for that particular billing for that time of the year.
2. The Company shall identify customers with high consumption, verify the high consumption, and investigate each instance to determine the possible cause.
3. The Company shall contact the high water use customers via telephone, email, by mail or in person. The Company shall contact the customer as soon as practical in order to minimize the possible loss of water. The customer will not be required to do anything to receive this notification.
4. In the notification the Company shall explain some of the most common water usage problems and common solutions and points of contact for dealing with the issues.
5. In the notification, the customer will be reminded of possible high water-consumption occurrences, such as:
  - a. Leaks, running toilets, or valves or flappers that need to be replaced.
  - b. Irrigation system valves or sprinkler heads which may be leaking.
  - c. Sprinklers that may be watering the house, sidewalk, or street, etc. increasing irrigation requirements.
  - d. Leaking pool or spas and possible leaks around pumps.
  - e. More people in the home than usual taking baths and showers.
  - f. Doing more loads of laundry than usual.
  - g. Doing a landscape project or starting a new lawn.
  - h. Washing vehicles more often than usual.
6. The Company shall offer water conservation information that could benefit the customer, such as, but not limited to, audit programs, publications, and rebate programs.

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7. The Company shall assist the customer in determining what might be causing the high water usage as well as offer the customer information regarding water conservation and landscape watering guidelines. The Company shall confirm the accuracy of the customer meter if requested to do so by the customer (applicable meter testing fees shall apply).
8. The type of notification, the timing of the notification (i.e., how long after high water use was discovered by the Company), and the criteria used for determining which customers are notified shall be recorded. The Company shall make this information available to the Commission upon request.

Company: \_\_\_\_\_

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## **Leak Detection Program Tariff – BMP 4.1**

### **PURPOSE**

A program for the Company to systematically evaluate its water distribution system to identify and repair leaks (Modified Non-Per Capita Conservation Program Best Management Practice Category 4: Physical System Evaluation and Improvement 4.1 Leak Detection Program).

### **REQUIREMENTS**

The requirements of this tariff are governed by Rules of the Arizona Corporation Commission and were adapted from the Arizona Department of Water Resources' Required Public Education Program and Best Management Practices in the Modified Non-Per Capita Conservation Program.

On a systematic basis, the Company shall perform leak detection inspections of its distribution system to identify and fix leaks.

This program shall be implemented through a strategy of targeting certain portions of the water service area which will yield the highest potential for water savings first.

1. The Company shall implement a comprehensive leak detection and repair program to attain and maintain a goal of less than 10 percent unaccounted for water loss in its system(s). The program must include auditing procedures, in-field leak detection and repair efforts. The Company shall take whatever practical steps are necessary to ensure that its water system is operating at optimal efficiency.
2. On a systematic basis, at least every two years (annually for smaller systems), the Company shall visually inspect its above ground water distribution system (to include hydrants, valves, tanks, pumps, etc. in the distribution system) to identify and repair leaks. Detection shall be followed by repair or in some cases replacement. Repair vs. replacement will depend upon site-specific leakage rates and costs.
3. Leak Detection efforts should focus on the portion of the distribution system with the greatest expected problems, including:
  - a. areas with a history of excessive leak and break rates;
  - b. areas where leaks and breaks can result in the heaviest property damage;
  - c. areas where system pressure is high;
  - d. areas exposed to stray current and traffic vibration;
  - e. areas near stream crossings; and,
  - f. areas where loads on pipe may exceed design loads.
4. The Company shall keep accurate and detailed records concerning its leak detection and repair/rehabilitation program and the associated costs. Records of repairs shall include: possible causes of leak; estimated amount of water lost; and date of repair. These records shall be made available to the Commission upon request.

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5. The Company shall maintain a complete set of updated distribution system maps.
6. The Company shall conduct a water audit annually which includes the following steps to determine how efficient each water system is operating and where the losses might be.
  - a. Use coordinated monthly source and service meter readings to calculate how much water enters and leaves the system during the 12 month review period.
  - b. Track and estimate any unmetered authorized uses.
  - c. Calculate the total amount of leakage using the following formula:

$$\text{Unaccounted for water (\%)} = \left[ \frac{\text{(Production and/or purchased water minus metered use \& estimated authorized un-metered use)}}{\text{(Production and/or purchased water)}} \right] \times 100\%$$

- d. Authorized un-metered uses may include firefighting, main flushing, process water for water treatment plants, etc. Water losses include all water that is not identified as authorized metered water use or authorized un-metered use.
  - e. Determine possible reasons for leakage, including physical leaks and unauthorized uses.
  - f. Analyze results to determine the improvements needed, such as, better accounting practices, leak survey or replacing old distribution pipes.
7. The Company shall keep accurate and detailed records concerning its annual water audit results. These records shall be made available to the Commission upon request.

Company: \_\_\_\_\_

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## **WATER SYSTEM TAMPERING TARIFF – BMP 5.2**

### **PURPOSE**

The purpose of this tariff is to promote the conservation of groundwater by enabling the Company to bring an action for damages or to enjoin any activity against a person who tampers with the water system.

### **REQUIREMENTS:**

The requirements of this tariff are governed by Rules of the Arizona Corporation Commission, specifically Arizona Administrative Code ("AAC") R14-2-410 and the Arizona Department of Water Resources' Required Public Education Program and Best Management Practices in the Modified Non-Per Capita Conservation Program.

1. In support of the Company's water conservation goals, the Company may bring an action for damages or to enjoin any activity against a person who: (1) makes a connection or reconnection with property owned or used by the Company to provide utility service without the Company's authorization or consent; (2) prevents a Company meter or other device used to determine the charge for utility services from accurately performing its measuring function; (3) tampers with property owned or used by the Company; or (4) uses or receives the Company's services without the authorization or consent of the Company and knows or has reason to know of the unlawful diversion, tampering or connection. If the Company's action is successful, the Company may recover as damages three times the amount of actual damages.
2. Compliance with the provisions of this tariff will be a condition of service.
3. The Company shall make available to all its customers a complete copy of this tariff and AAC R14-2-410. The customers shall follow and abide by this tariff.
4. If a customer is connected to the Company water system and the Company discovers that the customer has taken any of the actions listed in No. 1 above, the Company may terminate service per AAC R14-2-410.
5. If a customer believes he/she has been disconnected in error, the customer may contact the Commission's Consumer Services Section at 1-800-222-7000 to initiate an investigation.

Company: \_\_\_\_\_

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**Meter Repair and/or Replacement Tariff – BMP 4.2****PURPOSE**

A program for the Company to systematically assess all in-service water meters (including Company production meters) in its water service area to identify under-registering meters and to repair or replace them (Modified Non-Per Capita Conservation Program Best Management Practice Category 4: Physical System Evaluation and Improvement 4.2 Meter Repair and/or Replacement Program).

**REQUIREMENTS**

The requirements of this tariff are governed by Rules of the Arizona Corporation Commission and were adapted from the Arizona Department of Water Resources' Required Public Education Program and Best Management Practices in the Modified Non-Per Capita Conservation Program.

1. The Company will test, repair, or replace water meters in accordance with its meter testing and replacement guidelines, which include, but are not limited to, usage and length of time in service, as appropriate and necessary to maintain acceptable water meter accuracy.
2. The Company will test all meters that have caused a meter reading complaint to be filed with the Arizona Corporation Commission.
3. Meters larger than 2-inch shall be tested for one of the following reasons:
  - a. A meter reading complaint is filed with the Company by a customer or Arizona Corporation Commission Staff,
  - b. A meter has been in service for five years.
4. The test will be accomplished by one of the following:
  - a. Having the meter pulled and having a Company Technician physically inspect each meter and its fittings for leaks, registers which may have become loose or are not properly attached to the meter and could be under-registering or other broken parts which need repair.
  - b. Utilizing equipment to verify that all electronic components are within manufacturer specifications and are operating properly.
5. In addition, meters shall be randomly selected for flow testing utilizing a flow through detector testing meter.
6. All replacement water meters shall register in gallons:
  - a. All new 1-inch and smaller meters that are installed will register usage in 1 gallon increments,
  - b. All new 1-1/2-inch through 4-inch meters that are installed will register in 10 gallon increments, and
  - c. All new 6-inch and larger meters that are installed will register in 100 gallon increments.



Company: \_\_\_\_\_

Decision No.: \_\_\_\_\_

Phone: \_\_\_\_\_

Effective Date: \_\_\_\_\_

7. The Company shall keep records on the number of meters that were replaced and make this information available to the Commission upon request.

Chaparral City Water Company  
Docket No. W-02113A-13-0118

Plan of Administration  
System Improvement Benefit Mechanism ("SIB")

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## EXHIBITS

SIB PLANT TABLE I .....	Exhibit 1
SIB PLANT TABLE II .....	Exhibit 2
SIB SCHEDULE A - CALCULATION OF OVERALL SIB REVENUE REQUIREMENTS AND EFFICIENCY	
CREDIT .....	Exhibit 3
SIB SCHEDULE B - CALCULATION OF SIB TRUE-UP REVENUE REQUIREMENTS ADJUSTMENT .....	Exhibit 4
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## I. GENERAL DESCRIPTION

This document is the Plan of Administration ("POA") for the System Improvement Benefits ("SIB") Mechanism approved for Chaparral City Water Company ("CCWC" or "Company") by the Arizona Corporation Commission ("ACC" or "Commission") in Decision No. \_\_\_\_\_ on \_\_\_\_\_. The SIB provides for recovery of the capital costs (return on investment, income taxes and depreciation expense) associated with distribution system improvement projects listed in SIB Plant Table I that have been verified to be completed,<sup>1</sup> net of associated retirements and placed in service per SIB Plant Table II and where costs have not been included in rate base for recovery in Decision No. \_\_\_\_\_. Any expenditures offset by contributions in aid of construction or advances in aid of construction are not eligible for inclusion in the SIB.

## II. DEFINITIONS

- NARUC – National Association of Regulatory Utility Commissioners
- SIB – System Improvement Benefit mechanism to be implemented between rate proceedings to support investment in plant recorded in SIB Eligible NARUC accounts.
- SIB Eligible Plant – Investments in plant recorded in SIB Eligible NARUC accounts.
- SIB Eligible NARUC accounts:
  - NARUC Account No. 309 – Supply Mains
  - NARUC Account No. 331 – Mains
  - NARUC Account No. 333 – Services
  - NARUC Account No. 334 - Meters and Meter Installations;
  - NARUC Account No. 335 – Hydrants
- SIB Plant Table I (Excerpt attached as Exhibit 1)<sup>2</sup> – The schedule of planned SIB eligible projects approved in the Company's most recent rate case decision.

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<sup>1</sup> Acceptable form of verifications may include the Maricopa County Environmental Services Department Approval of Construction, Professional Engineer's Certificate of Completion, etc.

<sup>2</sup> See Company filing of August 22, 2013.

- SIB Plant Table II (Sample attached as Exhibit 2) – The schedule of completed and verified SIB eligible projects from SIB Plant Table I and associated retirements.
- Total Revenue Requirement – The revenue requirement approved in Decision No. \_\_\_\_\_, plus the SIB Revenue Requirement.
- SIB Revenue Requirement – The revenue requirement equal to the return on investment, income taxes and depreciation expense necessary to support the SIB Plant Table II amounts.
- SIB Revenue Requirement Efficiency Credit – An amount equal to 5 percent of the SIB Revenue Requirement.
- SIB Authorized Revenue – Amount equal to the SIB Revenue Requirement less the SIB Revenue Requirement Efficiency Credit plus any SIB True up Adjustment.
- Gross SIB Surcharge – Amount to be shown on customers' bills based on meter sizes without consideration to the SIB Surcharge Efficiency Credit.
- SIB Surcharge Efficiency Credit – An amount equal to 5 percent of the Gross SIB Surcharge to be shown on customers' bills.
- SIB Surcharge – The amount equal to the Gross SIB Surcharge less the SIB Surcharge Efficiency Credit to be charged based on meter size, calculated to recover the SIB Authorized Revenue, to be shown on the customers' bills.
- SIB True-up Adjustment – An amount to adjust for over or under collection of the SIB Authorized Revenues as compared with the total SIB Surcharges collected for the preceding 12 month period. Each true-up shall also analyze the cumulative over or under collections to include a comparison of all past SIB Authorized Revenues, total SIB Surcharge collections, and prior true-ups to be used in calculation of the SIB true-up surcharge or credit.

### **III. SIB RELATED FILINGS**

- A. Progress Reports – Once a SIB is approved in a decision, the Company must file with Docket Control semi-annual status reports delineating the status of all SIB Eligible Plant, on a project by project basis as listed in SIB Plant Table I, starting 6 months after the decision and every 6 months thereafter.
- B. Reconciliation and True Up – Once a SIB Surcharge is implemented, the Company must file annually to true up its SIB Surcharge collections over the

preceding twelve months with the SIB Authorized Revenue for that period and establish a surcharge or credit to true up over or under collections, regardless of whether it seeks a new surcharge. The filing dates for these annual true-ups shall be as established in the Commission's Decision approving the SIB Surcharge.

- C. SIB Surcharge Requests – To obtain its SIB Surcharge the Company must file the following:
1. SIB Plant Table II (with supporting information and documentation), showing the SIB eligible projects completed for which the Company seeks cost recovery. Such projects must
    - a) be projects listed in the Company's initial SIB Plant Table I, approved in Decision No. \_\_\_\_\_, or have been added to said SIB Plant Table I pursuant to Section V of this POA;
    - b) have been completed by the Company;
    - c) have been verified; and
    - d) be actually serving customers.
  2. A summary of Commission approved SIB-eligible projects contemplated for the next twelve (12)-month SIB surcharge period from SIB Plant Table I.
  3. SIB Schedule A (sample attached as Exhibit 3), showing a calculation of the SIB Revenue Requirement and SIB Revenue Requirement Efficiency Credit, SIB Authorized Revenue, Gross SIB Surcharge, SIB Surcharge Efficiency Credit, and the SIB Surcharge. Schedule A shall be supported by revenue requirements schedules supporting the revenue requirements in Decision No. \_\_\_\_\_ and the pro-forma revenue requirements including the effects of SIB Eligible Plant.
  4. Schedule B (sample attached as Exhibit 4) showing the overall SIB True-up Adjustment calculation for the prior twelve-month SIB Surcharge period, as well as the individual SIB True-up Adjustment for each meter size.
  5. SIB Schedule C (sample attached as Exhibit 5) showing the effect of the SIB Surcharge on a typical residential customer bill for both median and average usage.

6. SIB Schedule D (sample attached as Exhibit 6) which shall include an analysis of the impact of the SIB Eligible Plant on the fair value rate base, revenue, and the fair value rate of return. The Company shall also file the following:
  - a) the most current balance sheet at the time of the filing;
  - b) the most current income statement;
  - c) an earnings test schedule;
  - d) a rate review schedule (including the incremental and pro forma effects of the proposed increase);
  - e) an adjusted rate base schedule; and
  - f) a Construction Work in Progress ledger (for each project showing accumulation of charges by month and paid vendor invoices).
- D. The Company will maintain and provide Excel schedules with formulae intact supporting the revenue requirements approved in the rate decision that approved the SIB and provide same Excel schedules to incorporate the effects of SIB Eligible Plant for the current SIB Surcharge Request and any previously approved Surcharge and True-up requests.
- E. The Company may make its initial SIB Surcharge Request through Docket Control no earlier than twelve months after the entry of Decision No. \_\_\_\_\_.
- F. The Company may make no more than one SIB Surcharge Request every twelve months with no more than five SIB Surcharge Requests between rate case decisions. A True-up must be filed with each Surcharge Request, except the first.
- G. Unless otherwise authorized by the Commission, the Company shall be required to file its next general rate case no later than June 30, 2018, with a test year ending no later than December 31, 2017.
- H. Any SIB Surcharges that are in effect shall be reset to zero upon the date new rates become effective in the Company's next general rate case.
- I. The Company may request to add Plant to SIB Table I only under emergency circumstances. Any additions or modifications to SIB Plant Table I must be approved by the Commission.

#### IV. SURCHARGE CALCULATIONS

##### A. Calculations of Amounts to Be Collected By the SIB Surcharge

1. The amount to be collected by the SIB Authorized Revenue shall be equal to the SIB Revenue Requirement minus the SIB Revenue Requirements Efficiency Credit plus any SIB True up Adjustment.  
For purposes of calculating the SIB Revenue Requirement:
  - a. The required rate of return is equal to the overall rate of return authorized in Decision No. \_\_\_\_\_.
  - b. The gross revenue conversion factor/tax multiplier is equal to the gross revenue conversion factor/tax multiplier approved in Decision No. \_\_\_\_\_; and
  - c. The applicable depreciation rate(s) is equal to the depreciation rate(s) approved in Decision No. \_\_\_\_\_.
2. The project cost to be used in calculating the SIB Revenue Requirement shall be the lesser of the actual project cost listed in SIB Plant Table II or 110 percent of the estimated cost listed in SIB Plant Table I as approved in Decision No. \_\_\_\_\_. Unit costs shall be used if actual units constructed are less than estimated in SIB Plant Table I.
3. The amount to be collected by each SIB Surcharge Request shall be capped annually at five percent of the revenue requirement authorized in Decision No. \_\_\_\_\_.

##### B. Reconciliation And True-Ups

1. The revenue collected by the total SIB Surcharges over the preceding twelve months shall be trued-up and reconciled with the SIB Authorized Revenue for that period.
2. A new SIB Surcharge shall be combined with an existing SIB Surcharge such that a single SIB surcharge and SIB Efficiency Credit are shown on a customer's bill.
3. For each twelve (12) month period that a SIB surcharge is in effect, the Company shall reconcile the amounts collected by the SIB Surcharge with the SIB Authorized Revenue, for that twelve (12)-month period, consistent with Schedule B, attached hereto as Exhibit B.

4. Any under- or over-collected SIB Authorized Revenues shall be recovered or refunded, without interest, over a twelve-month period by means of a SIB True-up Surcharge or Credit.
5. Starting with the second annual SIB Surcharge, where there are over or under-collected balances, such over or undercollected balances shall be carried over to the next year, and considered in the calculation of the new SIB True-up Surcharge or Credit. If, after the five-year period there remains an over or undercollected balance, such balance shall be reset to zero, and addressed in the next rate case.

C. Earnings Test

1. Once a SIB Surcharge is in effect, the Company shall be required to perform an annual earnings test calculation for each SIB Surcharge Request to determine whether the actual rate of return reflected by the operating income for the affected system or division for the relevant 12-month period exceeded the most recently authorized fair value rate of return for the affected system or division.
2. The earnings test shall be:
  - a) based on the most recent available operating income,
  - b) adjusted for any operating revenue and expense adjustments adopted in the most recent general rate case; and
  - c) based on the rate base adopted in the most recent general rate case, updated to recognize changes in plant, accumulated depreciation, contributions in aid of construction, advances in aid of construction, and accumulated deferred income taxes through the most recent available financial statement (quarterly or longer).

V. **ADDING PROJECTS TO SIB TABLE I UNDER EMERGENCY CIRCUMSTANCES**

- A. The Company can seek Commission approval to add projects in SIB Plant Table I only in the event of emergency circumstances. No such changes may be made without Commission approval.
- B. Any addition to SIB Plant Table I must be plant investment that maintains or improves existing customer service, system reliability, integrity and safety. Eligible plant additions are limited to plant replacement projects. The costs of



extending facilities or capacity to serve new customers are not recoverable through the SIB mechanism.

- C. To be eligible for SIB treatment, a project must be SIB Eligible Plant.
- D. SIB Eligible Plant must satisfy at least one of the following criteria:
  - 1. Water loss for the system exceeds ten (10) percent, as calculated by the following formula:  $((\text{Volume of Water Produced and/ or Purchased}) - (\text{Volume of Water Sold} + \text{Volume of Water Put to Beneficial Use}))$  divided by  $(\text{Volume of Water Produced and/or Purchased})$ . If the Volume of Water Put to Beneficial Use is not metered, it shall be established in a reliable, verifiable manner.
  - 2. Plant assets that have remained in service beyond their useful service lives (based on the Company's system's authorized utility plant depreciation rates) and are in need of replacement due to being worn out or in a deteriorating condition through no fault of the Company;
  - 3. Any other engineering, operational or financial justification supporting the need for a plant asset replacement, other than the Company's negligence or improper maintenance, including, but not limited to:
    - a. A documented increasing level of repairs to, or failures of, a plant asset justifying its replacement prior to reaching the end of its useful service life (e.g. black poly pipe);
    - b. Assets that are required to be moved, replaced or abandoned by a governmental agency or political subdivision if the Company can show that it has made a good faith effort to seek reimbursement for all or part of the costs incurred.

## VI. RATE DESIGN

- A. The SIB Surcharge rate design shall be calculated as follows:
  - 1) The SIB Surcharge shall be a fixed monthly surcharge containing a Gross SIB Surcharge and the SIB Surcharge Efficiency Credit as its two components.
  - 2) The SIB Surcharge shall be calculated by dividing the SIB Authorized Revenue by the number of equivalent active 5/8-inch meters at the end of the most recent twelve (12) month period, and shall increase with meter size based on the following meter capacity multipliers:

5/8-inch x 3/4-inch	1.0 times
3/4-inch	1.5 times
1-inch	2.5 times
1 1/2-inch	5 times
2-inch	8 times
3-inch	16 times
4-inch	25 times
6-inch	50 times
8-inch	80 times
10-inch & above	115 times

- B. The SIB Surcharge shall apply to all of the Company's metered customers, including private fire service customers.

## **VII. SURCHARGE IMPLEMENTATION**

- A. SIB surcharges shall not become effective until approved by the Commission.
- B. At least 30 days prior to the SIB surcharge becoming effective, the Company shall provide public notice in the form of a billing insert or customer letter in a form acceptable to Staff. Such notice shall include the following information:
1. The individual Gross SIB Surcharge, by meter size;
  2. The individual SIB Surcharge Efficiency Credit, by meter size;
  3. SIB Surcharge, by meter size; and
  4. Directions where the customer may obtain a summary of the projects included in the current SIB Surcharge Request, including a description of each project and its cost.

**SIB Table I**

**(Exhibit CC-2)**

**EPCOR Water (USA) Inc.**

**Chaparral City Water Company/Fountain Hills**

**PWS ID No. 07-017**

**August 21, 2013**

## SIB PLANT TABLE I, 1-1

## 2014 Service Line Replacements

## Information to be included with SIB-Eligible Project Notification

Project No.	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
		Description	Pipe length/Quantity	Diameter/Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-1	309 Supply Mains										Replace 40 residential services (3/4" or 1") on Ocotillo between Mustang and Fountain Hills Blvd. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority because they were installed about 40 years ago, in 1974. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-1 in Exhibit CC-1 for the locations of the replacements.
	331 T&D Mains										
	333 Services										
S-2	334 Meters										Replace 105 residential services (3/4" or 1") on Mustang between Palisades and Fountain Hills Blvd. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority because they were installed about 38 years ago, in 1976. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-2 in Exhibit CC-1 for the locations of the replacements.
	335 Hydrants										

S-3	333	service lines	13	¾" & 1"	Copper	\$3,881	Spotted Horse	12/2014	n/a	\$50,450	Replace 13 residential services (¾" or 1") on Spotted Horse between Mustang and Westridge. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority because they were installed about 35 years ago, in 1979. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-3 in Exhibit CC-1 for the locations of the replacements.
S-4	333	service lines	37	¾" & 1"	Copper	\$3,881	Buffalo	12/2014	n/a	\$143,590	Replace 37 residential services (¾" or 1") on Buffalo between Mustang and Fountain Hills Blvd. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority because they were installed about 38 years ago, in 1976. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-4 in Exhibit CC-1 for the locations of the replacements.
S-5	333	service lines	9	¾" & 1"	Copper	\$3,881	Garland	12/2014	n/a	\$34,927	Replace 9 residential services (¾" or 1") on Garland between Buffalo and Palatial. The services are branched black poly lines (one service for two customers) that are failing at a high rate. The services are located on a short dead-end street off of Buffalo, which is scheduled for service line replacements in the same year (project S-4). Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-5 in Exhibit CC-1 for the locations of the replacements.
S-6	333	service lines	43	¾" & 1"	Copper	\$3,881	Pinto	12/2014	n/a	\$166,874	Replace 43 residential services (¾" or 1") on Pinto between Palomino and Fountain Hills Blvd. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority because they were installed about 38 years ago, in 1976. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-6 in Exhibit CC-1 for the locations of the replacements.
<b>Total</b>			<b>247</b>							<b>\$958,558</b>	

## SIB PLANT TABLE I, 1-2

## 2015 Service Line Replacements

## Information to be included with SIB-Eligible Project Notification

Project No.	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
		Description	Pipe length/Quantity	Diameter/Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-7	333	service lines	44	3/4" & 1"	Copper	\$3,881	Sycamore	12/2015	n/a	\$170,755	Replace 44 residential services (3/4" or 1" on Sycamore between Thistle and Ocotillo. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority because they were installed in 1974 and will be 41 years old in 2015. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-7 in Exhibit CC-1 for the locations of the replacements.
S-8	333	service lines	13	3/4" & 1"	Copper	\$3,881	Winchester	12/2015	n/a	\$50,450	Replace 13 residential services (3/4" or 1" on Winchester between Sunburst and Palomino. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority due to their vicinity to the other projects being completed this year, and also because these services are in a very high pressure area (>120 psi), and are therefore more susceptible to failure. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-8 Exhibit CC-1 for the locations of the replacements.

S-9	333	service lines	31	¾" & 1"	Copper	\$3,881	Ridgeway	12/2015	n/a	\$120,305	Replace 31 residential services (¾" or 1" on Ridgeway between Palisades and Winchester. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority because they were installed in 1976 and will be 39 years old in 2015. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-9 Exhibit CC-1 for the locations of the replacements.
S-10	333	service lines	54	¾" & 1"	Copper	\$3,881	Sunburst	12/2015	n/a	\$209,563	Replace 54 residential services (¾" or 1" on Sunburst between Palisades and Sycamore. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority due to their vicinity to the other projects being completed this year, and also because these services are in a very high pressure area (>120 psi), and are therefore more susceptible to failure. Additionally, homes on this street a very large, and are therefore expected to use more water, which reduces meter accuracy faster. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-10 Exhibit CC-1 for the locations of the replacements.
S-11	333	service lines	28	¾" & 1"	Copper	\$3,881	Burro	12/2015	n/a	\$108,662	Replace 28 residential services (¾" or 1" on Burro between Palomino and Pinchushion. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority because they were installed in 1978 and will be 37 years old in 2015. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-11 Exhibit CC-1 for the locations of the replacements.
S-12	333	service lines	26	¾" & 1"	Copper	\$3,881	Greystone	12/2015	n/a	\$100,901	Replace 26 residential services (¾" or 1" on Greystone between Sunburst and Sycamore. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are in the vicinity of the other service line replacements for 2015 and will be about 29 years old. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-12 Exhibit CC-1 for the locations of the replacements.

S-13	333	service lines	25	3/4" & 1"	Copper	\$3,881	Telegraph	12/2015	n/a	\$97,020	Replace 25 residential services (3/4" or 1") on Telegraph between Greystone and Sunburst. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are in the vicinity of the other service line replacements for 2015 and will be about 29 years old. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-13 Exhibit CC-1 for the locations of the replacements.
Total			221							\$857,656	



## SIB PLANT TABLE I, 1-3

## 2016 Service Line Replacements

## Information to be included with SIB-Eligible Project Notification

Project No.	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
		Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-14	333	service lines	95	3/4" & 1"	Copper	\$3,881	Cholla	12/2016	n/a	\$368,676	Replace 95 residential services (3/4" or 1" on Cholla between Chicory and Fountain Hills Blvd. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority because they were installed in 1973 and will be 43 years old in 2016. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-14 Exhibit CC-1 for the locations of the replacements.
S-15	333	service lines	49	3/4" & 1"	Copper	\$3,881	Chicory	12/2016	n/a	\$190,159	Replace 49 residential services (3/4" or 1" on Chicory between Sycamore and Thistle. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority because they were installed around 1974 and will be approximately 42 years old in 2016. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-15 Exhibit CC-1 for the locations of the replacements.

S-16	333	service lines	26	¾" & 1"	Copper	\$3,881	Verbena	12/2016	n/a	\$100,901	Replace 26 residential services (¾" or 1" on Verbena between Sage and El Lago. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority because they were installed around 1978 and will be approximately 38 years old in 2016. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-16 Exhibit CC-1 for the locations of the replacements.
S-17	333	service lines	56	¾" & 1"	Copper	\$3,881	El Lago	12/2016	n/a	\$217,325	Replace 56 residential services (¾" or 1" on El Lago between Palisades and Fountain Hills Blvd. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority because they were installed around 1979 and will be approximately 37 years old in 2016. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-17 Exhibit CC-1 for the locations of the replacements.
S-18	333	service lines	30	¾" & 1"	Copper	\$3,881	Cavern	12/2016	n/a	\$116,424	Replace 30 residential services (¾" or 1" on Cavern between Palisades and El Lago. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority because they were installed around 1979 and will be approximately 37 years old in 2016. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-18 in Exhibit CC-1 for the locations of the replacements.
<b>Total</b>			<b>256</b>							<b>\$993,485</b>	

## SIB PLANT TABLE I, 1-4

## 2017 Service Line Replacements

## Information to be included with SIB-Eligible Project Notification

Project No.	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
		Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-19	333	309 Supply Mains 331 T & D Mains 333 Services 334 Meters 335 Hydrants	56	¾" & 1"	Copper	\$3,881	Mimosa	12/2017	n/a	\$217,325	Replace 56 residential services (¾" or 1") on Mimosa between Sunflower and Thistle. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority because they were installed around 1975 and will be approximately 42 years old in 2017. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-19 in Exhibit CC-1 for the locations of the replacements.
S-20	333	service lines	34	¾" & 1"	Copper	\$3,881	Mountainside	12/2017	n/a	\$131,947	Replace 34 residential services (¾" or 1") on Mountainside between Palisades and Thistle. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority because they were installed in 1975 and will be 42 years old in 2017. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-20 in Exhibit CC-1 for the locations of the replacements.

S-21	333	service lines	31	¾" & 1"	Copper	\$3,881	Echo Hill	12/2017	n/a	\$120,305	Replace 31 residential services (¾" or 1" on Echo Hill between El Lago and Minosa. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority because they were installed in 1979 and will be 38 years old in 2017. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-21 in Exhibit CC-1 for the locations of the replacements.
S-22	333	service lines	84	¾" & 1"	Copper	\$3,881	El Pueblo	12/2017	n/a	\$325,987	Replace 84 residential services (¾" or 1" on El Pueblo between Fountain Hills Blvd and Caliente. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority because they were installed in 1972 and will be 45 years old in 2017. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-22 in Exhibit CC-1 for the locations of the replacements.
S-23	333	service lines	55	¾" & 1"	Copper	\$3,881	Oro Grande, Pampas	12/2017	n/a	\$213,444	Replace 55 residential services (¾" or 1" on Oro Grande and Pampas between Calle del Prado and Tejon. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority because they were installed around 1974 and will be approximately 43 years old in 2017. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-23 in Exhibit CC-1 for the locations of the replacements.
<b>Total</b>			<b>260</b>							<b>\$1,009,008</b>	

## SIB PLANT TABLE I, 1-5

## 2018 Service Line Replacements

## Information to be included with SIB-Eligible Project Notification

Project No.	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
		Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-24	333	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	39	¾" & 1"	Copper	\$3,881	Alamosa	12/2018	n/a	\$151,351	Replace 39 residential services (¾" or 1" on Alamosa between El Pueblo and Del Cambre. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority because they were installed in 1972 and will be 46 years old in 2018. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-24 in Exhibit CC-1 for the locations of the replacements.
S-25	333	service lines	41	¾" & 1"	Copper	\$3,881	Caliente Bowstring	12/2018	n/a	\$159,113	Replace 41 residential services (¾" or 1" on Caliente and Bowstring between Tejon and El Pueblo. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority because they were installed in 1973 and will be 45 years old in 2018. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-25 in Exhibit CC-1 for the locations of the replacements as well as the location of historical replacements in the area.

S-26	333	service lines	24	¾" & 1"	Copper	\$3,881	El Sobrante	12/2018	n/a	\$93,139	Replace 24 residential services (¾" or 1") on El Sobrante between Baca and Calvaras. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority because they were installed in 1972 and will be 46 years old in 2018. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-26 in Exhibit CC-1 for the locations of the replacements.
S-27	333	service lines	22	¾" & 1"	Copper	\$3,881	Mirage Crossing	12/2018	n/a	\$85,378	Replace 22 residential services (¾" or 1") on Mirage Crossing between El Pueblo and Alamosa. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services will be 27 years old in 2018. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-27 in Exhibit CC-1 for the locations of the replacements.
S-28	333	service lines	30	¾" & 1"	Copper	\$3,881	Calle Del Prado	12/2018	n/a	\$116,424	Replace 30 residential services (¾" or 1") on Calle Del Prado between El Pueblo and Del Cambre. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority because they were installed in 1973 and will be 45 years old in 2018. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-28 in Exhibit CC-1 for the locations of the replacements.
S-29	333	service lines	39	¾" & 1"	Copper	\$3,881	Tejon, Buena Vida, Rica Vida, and Agave	12/2018	n/a	\$151,351	Replace 39 residential services (¾" or 1") on Tejon, Buena Vida, Rica Vida, and Agave between El Sobrante and El Pueblo. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority because they were installed around 1977 and will be approximately 46 years old in 2018. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-29 in Exhibit CC-1 for the locations of the replacements.

S-30	333	service lines	36	¾" & 1"	Copper	\$3,881	Deerskin	12/2018	n/a	\$139,709	Replace 36 residential services (¾" or 1") on Deerskin between Alamosa and Del Cambre. The services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority because they were installed in 1973 and will be 45 years old in 2018. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Map No. S-30 for the locations of the replacements.
<b>Total</b>			<b>231</b>							<b>\$896,465</b>	

## SIB PLANT TABLE I, 2-1

**Information to be included with SIB-Eligible Project Notification**  
 2014 Valve Replacements

Project No.	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)				Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
		Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)	Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-1	331	gate valves	28	23-6" 1-8" 4-12"	cast iron with rubberized epoxy coating	6"-\$4,651 8"-\$5,201 12"-\$6,173	12/2014	n/a	\$136,862	Replace 23-6", 1-8", 4-12" valves (28 total) on Palomino between Palisades and Fountain Hills Blvd. Distribution system valves that are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves are a priority because they were installed in 1976 and will be 38 years old in 2014. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main breaks. The valve replacements are not related to new growth. Map V-1 in Exhibit CC-1 shows the location of these valves.
V-2	331	gate valves	34	31-6" 1-4" 2-12"	cast iron with rubberized epoxy coating	4"-\$4,431 6"-\$4,651 12"-\$6,173	12/2014	n/a	\$160,952	Replace 31-6", 1-4", and 2-12" valves (34 total) on Mustang between Palisades and Fountain Hills Blvd. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves are a priority because they were installed in 1977 and will be 37 years old in 2014. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main breaks. The valve replacements are not related to new growth. Map V-2 in Exhibit CC-1 shows the location of these valves.



V-3	331	gate valves	1	6"	cast iron with rubberized epoxy coating	\$4,651	Spotted Horse	12/2014	n/a	\$4,651	Replace 1-6" valve on Spotted Horse between Mustang and Westridge. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. This valve is a priority because it was installed in 1979 and will be 35 years and is needed in order to operate the only hydrants on this street. Replacing valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main breaks. The valve replacements are not related to new growth. Map V-3 in Exhibit CC-1 shows the location of this valve.
V-4	331	gate valves	10	6"	cast iron with rubberized epoxy coating	\$4,651	Buffalo	12/2014	n/a	\$46,508	Replace 10-6" valves on Buffalo between Mustang and Fountain Hills Blvd. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves are a priority because they were installed in 1976 and will be 38 years old in 2014. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main breaks. The valve replacements are not related to new growth. Map V-4 in Exhibit CC-1 shows the location of these valves.
V-5	331	gate valves	1	6"	cast iron with rubberized epoxy coating	\$4,651	Garland	12/2014	n/a	\$4,651	Replace 1-6" valve on Garland between Buffalo and Palatial. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. This valve is suffering from corrosion and is the only way to isolate Garland Circle. Replacing valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main breaks. The valve replacements are not related to new growth. Map V-5 in Exhibit CC-1 shows the location of this valve.
V-6	331	gate valves	10	6"	cast iron with rubberized epoxy coating	\$4,651	Pinto	12/2014	n/a	\$46,508	Replace 10-6" valves on Pinto between Palomino and Fountain Hills Blvd. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves are a priority because they were installed in 1976 and will be 38 years old in 2014. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main breaks. The valve replacements are not related to new growth. Map V-6 in Exhibit CC-1 shows the location of these valves.

V-7	331	gate valves	11	6-6" 4-8"	cast iron with rubberized epoxy coating	6"-\$4,651 8"-\$5,201	Ocotillo	12/2014	n/a	\$53,359	Replace 6-6" and 4-8" valves (10 total) on Ocotillo between Mustang and Fountain Hills Blvd. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves are a priority because they were installed in 1974 and will be 40 years old in 2014. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main breaks. The valve replacements are not related to new growth. Map V-7 in Exhibit CC-1 shows the location of these valves.
Total			95							\$453,491	

## SIB PLANT TABLE I, 2-2

2015 Valve Replacements  
Information to be included with SIB-Eligible Project Notification

Project No.	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
		Description	Pipe length/Quantity	Diameter/Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-8	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	gate valves	14	1-4" 9-6" 4-12"	cast iron with rubberized epoxy coating	4"-\$4,431 6"-\$4,651 12"-\$6,173	Sycamore	12/2015	n/a	\$70,981	Replace 1-4", 9-6", 4-12" valves (14 total) on Sycamore between Thistle and Ocotillo. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves were installed around 1976 and will be approximately 39 years old in 2015. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main break. The valve replacements are not related to new growth. Map V-8 in Exhibit CC-1 shows the location of these valves.
V-9	331	gate valves	6	6"	cast iron with rubberized epoxy coating	\$4,651	Winchester	12/2015	n/a	\$27,905	Replace 6-6" valves on Winchester between Sunburst and Palomino. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves will be 17-39 years old and are located in a high pressure area. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main break. The valve replacements are not related to new growth. Map V-9 in Exhibit CC-1 shows the location of these valves.

V-10	331	gate valves	9	6"	cast iron with rubberized epoxy coating	\$4,651	Ridgeway	12/2015	n/a	\$41,857	Replace 9-6" valves on Ridgeway between Palisades and Winchester. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves were installed around 1976 and will be approximately 39 years old in 2015. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main break. The valve replacements are not related to new growth. Map V-10 in Exhibit CC-1 shows the location of these valves.
V-11	331	gate valves	18	6"	cast iron with rubberized epoxy coating	\$4,651	Sunburst	12/2015	n/a	\$83,714	Replace 18-6" valves on Sunburst between Palisades and Sycamore. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves will be approximately 17-29 years old and are located in a high pressure area. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main break. The valve replacements are not related to new growth. Map V-11 in Exhibit CC-1 shows the location of these valves.
V-12	331	gate valves	15	6"	cast iron with rubberized epoxy coating	\$4,651	Greystone	12/2015	n/a	\$69,762	Replace 15-6" valve on Greystone between Sunburst and Sycamore. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves will be approximately 29 years old in 2015. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main break. The valve replacements are not related to new growth. Map V-12 in Exhibit CC-1 shows the location of these valves.
V-13	331	gate valves	8	6"	cast iron with rubberized epoxy coating	\$4,651	Telegraph	12/2015	n/a	\$37,206	Replace 8-6" valves on Telegraph between Greystone and Sunburst. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves will be approximately 29 years old in 2015. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main break. The valve replacements are not related to new growth. Map V-13 in Exhibit CC-1 shows the location of these valves.
V-14	331	gate valves	4	6"	cast iron with rubberized epoxy coating	\$4,651	Tacony	12/2015	n/a	\$18,603	Replace 4-6" valves on Tacony between Greystone and Telegraph. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves will be approximately 29 years old in 2015. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main break. The valve replacements are not related to new growth. Map V-14 in Exhibit CC-1 shows the location of these valves.

V-15	331	gate valves	11	5-6" 1-8" 5-12"	cast iron with rubberized epoxy coating	6"-\$4,651 8"-\$5,201 12"-\$6,173	Mimosa	12/2015	n/a	\$59,321	Replace 5-6", 1-8", and 5-12" (11 total) valves on Mimosa between Sunflower and Thistle. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves were installed in 1976 and will be 39 years old in 2015. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main breaks. The valve replacements are not related to new growth. Map V-15 in Exhibit CC-1 shows the location of these valves.
V-16	331	gate valves	18	1-4" 13-6" 4-8"	cast iron with rubberized epoxy coating	4"-\$4,431 6"-\$4,651 8"-\$5,201	Cholla	12/2015	n/a	\$85,694	Replace 1-4", 13-6", and 4-8" (18 total) valves on Cholla between Chicory and Fountain Hills Blvd. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves were installed around 1975 and will be approximately 40 years old in 2015. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main breaks. The valve replacements are not related to new growth. Map V-16 in Exhibit CC-1 shows the location of these valves.
<b>Total</b>			<b>103</b>							<b>\$495,043</b>	

Chaparral City Water Company – PWS ID No. 07-017  
**SIB PLANT TABLE I, 2-3**  
 2016 Valve Replacements

**Information to be included with SIB-Eligible Project Notification**

Project No.	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)				Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
		Description	Pipe length/Quantity	Diameter/Size	Material	Installed Cost/Unit (Estimated)	Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-17	331	gate valves	8	5-6" 3-12"	cast iron with rubberized epoxy coating	6"-\$4,651 12"-\$6,173	12/2016	n/a	\$41,744	Replace 5-6" and 3-12" (8 total) valves on Chicory between Sycamore and Thistle. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves were installed in 1974 and will be 42 years old in 2016. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main breaks. The valve replacements are not related to new growth. Map V-17 in Exhibit CC-1 shows the location of these valves.
V-18	331	gate valves	6	5-6" 1-8"	cast iron with rubberized epoxy coating	6"-\$4,651 8"-\$5,201	12/2016	n/a	\$28,433	Replace 5-6" and 1-8" (6 total) valves on Verbena between Sage and El Lago. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves were installed around 1977 and will be approximately 39 years old in 2016. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main breaks. The valve replacements are not related to new growth. Map V-18 in Exhibit CC-1 shows the location of these valves.

V-19	331	gate valves	12	9-6" 3-12"	cast iron with rubberized epoxy coating	6"-\$4,651 12"-\$6,173	Sage	12/2016	n/a	\$60,377	Replace 9-6" and 3-12" (12 total) valves on Sage between Palisades and Stardust. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves were installed between 1975 and 1989 and will be approximately 27 to 41 years old in 2016. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main break. The valve replacements are not related to new growth. Map V-19 in Exhibit CC-1 shows the location of these valves.
V-20	331	gate valves	6	3-6" 3-12"	cast iron with rubberized epoxy coating	6"-\$4,651 12"-\$6,173	Ironwood	12/2016	n/a	\$32,472	Replace 3-6" and 3-12" (6 total) valves on Ironwood between Thistle and Fountain Hills Blvd. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These were installed in 1973 and will be 43 years old in 2016. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main break. The valve replacements are not related to new growth. Map V-20 in Exhibit CC-1 shows the location of these valves.
V-21	331	gate valves	19	1-4" 11-6" 5-8" 2-12"	cast iron with rubberized epoxy coating	4"-\$4,431 6"-\$4,651 8"-\$5,201 12"-\$6,173	Thistle	12/2016	n/a	\$93,940	Replace 1-4", 11-6", 5-8", and 2-12" (19 total) valves on Thistle between Palisades and Mountainside Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves were installed around 1976 and will be approximately 40 years old in 2016. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main break. The valve replacements are not related to new growth. Map V-21 in Exhibit CC-1 shows the location of these valves.
V-22	331	gate valves	21	10-6" 11-8"	cast iron with rubberized epoxy coating	6"-\$4,651 8"-\$5,201	El Lago	12/2016	n/a	\$103,717	Replace 10-6" and 11-8" (21 total) valves on El Lago between Palisades and Fountain Hills Blvd Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves were installed around 1979 and will be approximately 37 years old in 2016. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main break. The valve replacements are not related to new growth. Map V-22 in Exhibit CC-1 shows the location of these valves.

V-23	331	gate valves	16	13-6" 3-8"	cast iron with rubberized epoxy coating	6"-\$4,651 8"-\$5,201	Sunflower	12/2016	n/a	\$76,063	Replace 13-6" and 3-8" (16 total) valves on Sunflower between Cactus and Mountainside. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves were installed between 1975 and 1995 and will be approximately 21 to 41 years old in 2016. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main breaks. The valve replacements are not related to new growth. Map V-23 in Exhibit CC-1 shows the location of these valves.
Total			88							\$436,776	



## SIB PLANT TABLE I, 2-4

## 2017 Valve Replacements

## Information to be included with SIB-Eligible Project Notification

Project No.	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
		Description	Pipe length/Quantity	Diameter/Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-24	331 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	gate valves	8	6"	cast iron with rubberized epoxy coating	\$4,651	Cavern	12/2017	n/a	\$37,206	Replace 8-6" valves on Cavern between Palisades and El Lago. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves were installed in 1979 and will be 38 years old in 2017. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main breaks. The valve replacements are not related to new growth. Map V-24 in Exhibit CC-1 shows the location of these valves.
V-25	331	gate valves	7	4-6" 3-8"	cast iron with rubberized epoxy coating	6"-\$4,651 8"-\$5,201	Jackrabbit	12/2017	n/a	\$34,206	Replace 4-6" and 3-8" (7 total) valves on Jackrabbit between Palisades and Sunflower. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves were installed in 1997. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main breaks. The valve replacements are not related to new growth. Map V-25 in Exhibit CC-1 shows the location of these valves.

V-26	331	gate valves	16	9-6" 4-8" 3-12"	cast iron with rubberized epoxy coating	6"-\$4,651 8"-\$5,201 12"-\$6,173	Mountain- side	12/2017	n/a	\$81,180	Replace 9-6", 4-8", and 3-12" (16 total) valves on Mountainside between Palisades and Thistle Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves were installed in 1978 and will be 39 years old in 2017. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main break. The valve replacements are not related to new growth. Map V-26 in Exhibit CC-1 shows the location of these valves.
V-27	331	gate valves	6	4-6" 2-8"	cast iron with rubberized epoxy coating	6"-\$4,651 8"-\$5,201	Echo Hill	12/2017	n/a	\$29,005	Replace 4-6" and 2-8" (6 total) valves on Echo Hill between El Lago and Mimosa. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves were installed in 1979 and will be 38 years old in 2017. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main break. The valve replacements are not related to new growth. Map V-27 in Exhibit CC-1 shows the location of these valves.
V-28	331	gate valves	14	6"	cast iron with rubberized epoxy coating	\$4,651	Tumble- weed	12/2017	n/a	\$65,111	Replace 14-6" valves on Tumbleweed between Cavern and Mountainside. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves were installed between 1975 and 1990 and will be 27 to 42 years old in 2017. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main break. The valve replacements are not related to new growth. Map V-28 in Exhibit CC-1 shows the location of these valves.
V-29	331	gate valves	14	6"	cast iron with rubberized epoxy coating	\$4,651	Ponderosa	12/2017	n/a	\$65,111	Replace 14-6" valves on Ponderosa between Primrose and Mountainside Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves were installed between 1975 and 1989 and will be 28 to 42 years old in 2017. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main break. The valve replacements are not related to new growth. Map V-29 in Exhibit CC-1 shows the location of these valves.

V-30	331	gate valves	9	6"	cast iron with rubberized epoxy coating	\$4,651	Lantana, Jericho, Brodiea	12/2017	n/a	\$41,857	Replace 9-6" valves on Lantana, Jericho, and Brodiea between El Lago and Mimosa. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves were installed in 1979 and will be 38 years old in 2017. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main breaks. The valve replacements are not related to new growth. Map V-30 in Exhibit CC-1 shows the location of these valves.
Total			74							\$353,676	

Chaparral City Water Company – PWS ID No. 07-017  
**SIB PLANT TABLE I, 2-5**  
 2018 Valve Replacements

**Information to be included with SIB-Eligible Project Notification**

Project No.	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
		Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-31	309 Supply Mains										Replace 1-4", 19-6", 5-8", 8-12" (33 total) valves on El Pueblo between Fountain Hills Blvd and Escalante. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves were installed in 1973 and will be 45 years old in 2018. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main breaks. The valve replacements are not related to new growth. Map V-31 in Exhibit CC-1 shows the location of these valves.
	331 T&D Mains										
	333 Services										
V-32	334 Meters										Replace 1-4" and 12-6" (13 total) valves on Oro Grande between Calle del Prado and Tejon. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves were installed in 1974 and will be 44 years old in 2018. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main breaks. The valve replacements are not related to new growth. Map V-32 in Exhibit CC-1 shows the location of these valves.
	335 Hydrants										

V-33	331	gate valves	16	1-4" 14-6" 1-12"	cast iron with rubberized epoxy coating	4"-\$4,431 6"-\$4,651 12"-\$6,173	Alamosa	12/2018	n/a	\$75,715	Replace 1-4", 14-6", and 1-12" (16 total) valves on Alamosa between Del Cumbre and El Pueblo. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves were installed in 1972 and will be 46 years old in 2018. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main break. The valve replacements are not related to new growth. Map V-33 in Exhibit CC-1 shows the location of these valves.
V-34	331	gate valves	11	2-4" 9-6"	cast iron with rubberized epoxy coating	4"-\$4,431 6"-\$4,651	Caliente, Yuma Kiva	12/2018	n/a	\$50,719	Replace 2-4" and 9-6" (11 total) valves on Caliente and Yuma Kiva between Tejon and El Pueblo. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves were installed in 1973 and will be 45 years old in 2018. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main break. The valve replacements are not related to new growth. Map V-34 in Exhibit CC-1 shows the location of these valves.
V-35	331	gate valves	16	15-6" 1-12"	cast iron with rubberized epoxy coating	6"-\$4,651 12"-\$6,173	El Sobrante	12/2018	n/a	\$75,935	Replace 15-6" and 1-12" (16 total) valves on El Sobrante between Baca and Calvaras. Distribution system valves are no longer functioning because they are primarily uncoated butterfly valves which are prone to tuberculation. These valves were installed in 1972 and will be 6 years old in 2018. Replacing the valves decreases time required to shutdown water main in the event of main break or other system maintenance which reduces customer service disruption and decreases water loss during a main break. The valve replacements are not related to new growth. Map V-35 in Exhibit CC-1 shows the location of these valves.
Total			89							\$430,795	

## SIB PLANT TABLE I, 3-1

## 2014 Hydrant Replacements

## Information to be included with DSIC-Eligible Project Notification

Project No.	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (new plant) (DSIC-eligible plant)				Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
		Description	Pipe length/Quantity	Diameter/Size	Material	Installed Cost/Unit (estimated)	Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
H-1	335 Hydrants	hydrants	8	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	12/2014	n/a	\$18,093	Replace 8 fire hydrants on Palomino between Palisades and Fountain Hills Blvd. The fire hydrants are in deteriorating condition and are approximately 35 years old. These are Dresser hydrants, for which we can no longer obtain repair parts. Three hydrants on this street have already needed replacement within the last 6 years. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-1 in Exhibit CC-1 which shows the locations of the future replacements.
H-2	335 Hydrants	hydrants	10	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	12/2014	n/a	\$22,616	Replace 10 fire hydrants on Mustang between Palisades and Fountain Hills Blvd. The fire hydrants are in deteriorating condition and are 37 years old. These are Dresser hydrants, for which we can no longer obtain repair parts. One hydrant on this street has already needed replacement within the last 6 years. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-2 in Exhibit CC-1 which shows the locations of the future replacements.

H-3	335	hydrants	1	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	Spotted Horse	12/2014	n/a	\$2,262	Replace 1 fire hydrant on Spotted Horse between Mustang and Westridge. The fire hydrant is in deteriorating condition and is 34 years old. This is a Dresser hydrant, for which we can no longer obtain repair parts. Replacing the hydrant will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacement is for existing customers and not related to new growth. See the map for Project H-3 in Exhibit CC-1 which shows the location of the future replacement.
H-4	335	hydrants	1	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	Buffalo	12/2014	n/a	\$2,262	Replace 1 fire hydrant on Buffalo between Mustang and Puma. The fire hydrant is in deteriorating condition and is 37 years old. This is a Dresser hydrant, for which we can no longer obtain repair parts. The other 3 hydrants on this street have already needed replacement. Replacing the hydrant will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacement is for existing customers and not related to new growth. See the map for Project H-4 in Exhibit CC-1 which shows the location of the future replacement.
H-5	335	hydrants	10	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	Sunburst	12/2014	n/a	\$22,616	Replace 10 fire hydrants on Sunburst between Palisades and Sycamore. The fire hydrants are in deteriorating condition and 2 hydrants on this street have already needed replacement. These are Dresser hydrants, for which we can no longer obtain repair parts. Two hydrants on this street have already needed replacement within the last 6 years. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-5 in Exhibit CC-1 which shows the locations of the future replacements.
H-6	335	hydrants	4	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	Burro, Pincushion	12/2014	n/a	\$9,046	Replace 4 fire hydrants on Burro and Pincushion between Palomino and Ocotillo. The fire hydrants are in deteriorating condition and are approximately 37 years old. These are Dresser hydrants, for which we can no longer obtain repair parts. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-6 in Exhibit CC-1 which shows the locations of the future replacements.
H-7	335	hydrants	7	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	Ocotillo	12/2014	n/a	\$15,831	Replace 7 fire hydrants on Ocotillo between Mustang and Fountain Hills Blvd. The fire hydrants are in deteriorating condition and are approximately 39 years old. These are Dresser hydrants, for which we can no longer obtain repair parts. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-7 in Exhibit CC-1 which shows the locations of the future replacements.
<b>Total</b>			<b>41</b>							<b>\$92,726</b>	

**SIB PLANT TABLE I, 3-2****2015 Hydrant Replacements****Information to be included with DSIC-Eligible Project Notification**

Project No.	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (new plant) (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
		Description	Pipe length/Quantity	Diameter/Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
H-8	335	hydrants	6	n/a	Cast Iron/AVK Wet Barrel	\$2,262	Sycamore	12/2015	n/a	\$13,570	Replace 6 fire hydrants on Sycamore between Thistle and Ocotillo. The fire hydrants are in deteriorating condition and will be 41 years old in 2015. These are Dresser hydrants, for which we can no longer obtain repair parts. One hydrant on this street has already needed replacement within the last 6 years. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-8 in Exhibit CC-1 which shows the locations of the future replacements.
H-9	335	hydrants	6	n/a	Cast Iron/AVK Wet Barrel	\$2,262	Ridgeway	12/2015	n/a	\$13,570	Replace 6 fire hydrants on Ridgeway between Palisades and Winchester. The fire hydrant is in deteriorating condition and will be 39 years old in 2015. These are Dresser hydrants, for which we can no longer obtain repair parts. One hydrant on this street has already needed replacement within the last 6 years. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-9 in Exhibit CC-1 which shows the locations of the future replacements.



H-10	335	hydrants	6	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	Greystone	12/2014	n/a	\$13,570	Replace 6 fire hydrants on Greystone between Sunburst and Sycamore. The fire hydrant is in deteriorating condition and will be 29 years old in 2015. These are Dresser hydrants, for which we can no longer obtain repair parts. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-10 in Exhibit CC-1 which shows the location of the future replacements.
H-11	335	hydrants	4	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	Telegraph	12/2014	n/a	\$9,046	Replace 4 fire hydrants on Telegraph between Greystone and Sunburst. The fire hydrant is in deteriorating condition and will be 29 years old in 2015. These are Dresser hydrants, for which we can no longer obtain repair parts. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-11 in Exhibit CC-1 which shows the location of the future replacements.
H-12	335	hydrants	1	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	Tacony	12/2015	n/a	\$2,262	Replace 1 fire hydrant on Tacony between Greystone and Telegraph. The fire hydrant is in deteriorating condition and will be 29 years old in 2015. This is a Dresser hydrant, for which we can no longer obtain repair parts. The other hydrant on this street has already needed replacement. Replacing the hydrant will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacement is for existing customers and not related to new growth. See the map for Project H-12 in Exhibit CC-1 which shows the locations of the future replacement.
H-13	335	hydrants	8	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	Mimosa	12/2015	n/a	\$18,093	Replace 8 fire hydrants on Mimosa between Sunflower and Thisle. The fire hydrants are in deteriorating condition and will be approximately 37 years old in 2015. These are Dresser hydrants, for which we can no longer obtain repair parts. One hydrant on this street has already needed replacement. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-13 in Exhibit CC-1 which shows the locations of the future replacements.

H-14	335	hydrants	4	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	Cholla	12/2015	n/a	\$9,046	Replace 4 fire hydrants on Cholla between Chicory and Fountain Hills Blvd. The fire hydrants are in deteriorating condition and will be 42 years old in 2015. These are Dresser hydrants, for which we can no longer obtain repair parts. Four hydrants on this street have already needed replacement. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-14 in Exhibit CC-1 which shows the locations of the future replacements.
Total			35							\$79,157	

## 2016 Hydrant Replacements

### Information to be included with DSIC-Eligible Project Notification

Project No.	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (new plant) (DSIC-eligible plant)				Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
		Description	Pipe length/Quantity	Diameter/Size	Material		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
H-15	335	hydrants	2	n/a	Cast Iron/AVK Wet Barrel	Chicory	12/2016	n/a	\$4,523	Replace 2 fire hydrants on Chicory between Sycamore and Thistle. The fire hydrants are in deteriorating condition and will be 41 years old in 2016. These are Dresser hydrants, for which we can no longer obtain repair parts. One hydrant on this street has already needed replacement within the last 6 years. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-15 in Exhibit CC-1 which shows the locations of the future replacements.
H-16	335	hydrants	3	n/a	Cast Iron/AVK Wet Barrel	Verbena	12/2016	n/a	\$6,785	Replace 3 fire hydrants on Verbena between Sage and El Lago. The fire hydrants are in deteriorating condition and will be 40 years old in 2016. These are Dresser hydrants, for which we can no longer obtain repair parts. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-16 in Exhibit CC-1 which shows the locations of the future replacements.

H-17	335	hydrants	5	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	Sage, Stardust	12/2016	n/a	\$11,308	Replace 5 fire hydrants on Sage and Stardust between Palisades and Greystone. These are Dresser hydrants, for which we can no longer obtain repair parts. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-17 in Exhibit CC-1 which shows the locations of the future replacements.
H-18	335	hydrants	1	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	Sierra Norte	12/2016	n/a	\$2,262	Replace 1 fire hydrant on Sierra Norte between Palisades and Sage. This is a Dresser hydrant, for which we can no longer obtain repair parts. Replacing the hydrant will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacement is for existing customers and not related to new growth. See the map for Project H-18 in Exhibit CC-1 which shows the location of the future replacement.
H-19	335	hydrants	3	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	Ironwood	12/2016	n/a	\$6,785	Replace 3 fire hydrants on Ironwood between Thistle and Fountain Hills Blvd. The fire hydrants are in deteriorating condition and will be 43 years old in 2016. These are Dresser hydrants, for which we can no longer obtain repair parts. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-19 in Exhibit CC-1 which shows the location of the future replacements.
H-20	335	hydrants	5	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	Thistle	12/2016	n/a	\$11,308	Replace 5 fire hydrants on Thistle between Palisades and Mountain Side. The fire hydrants are in deteriorating condition and will be 40 years old in 2016. These are Dresser hydrants, for which we can no longer obtain repair parts. One hydrant on this street has already needed replacement within the last 6 years. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-20 in Exhibit CC-1 which shows the locations of the future replacements.
H-21	335	hydrants	10	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	El Lago	12/2016	n/a	\$22,616	Replace 10 fire hydrants on El Lago between Palisades and Fountain Hills Blvd. The fire hydrants are in deteriorating condition and will be approximately 37 years old in 2016. These are Dresser hydrants, for which we can no longer obtain repair parts. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-21 in Exhibit CC-1 which shows the locations of the future replacements.

H-22	335	hydrants	1	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	Cavern	12/2016	n/a	\$2,262	Replace 1 fire hydrant on Cavern between Palisades and El Lago. The fire hydrant is in deteriorating condition and will be 36 years old in 2016. This is a Dresser hydrant, for which we can no longer obtain repair parts. The other hydrant on this street already needed replacement. Replacing the hydrant will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacement is for existing customers and not related to new growth. See the map for Project H-22 in Exhibit CC-1 which shows the location of the future replacement.
H-23	335	hydrants	4	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	Mountain-side	12/2016	n/a	\$9,046	Replace 4 fire hydrants on Mountainside between Palisades and Thistle. The fire hydrants are in deteriorating condition and will be 40 years old in 2016. These are Dresser hydrants, for which we can no longer obtain repair parts. One hydrant on this street has already needed replacement within the last 6 years. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-23 in Exhibit CC-1 which shows the locations of the future replacements.
H-24	335	hydrants	3	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	Echo Hill	12/2016	n/a	\$6,785	Replace 3 fire hydrants on Echo Hill between El Lago and Mimosa. The fire hydrants are in deteriorating condition and will be approximately 37 years old in 2016. These are Dresser hydrants, for which we can no longer obtain repair parts. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-24 in Exhibit CC-1 which shows the locations of the future replacements.
<b>Total</b>			<b>37</b>							<b>\$83,680</b>	

## SIB PLANT TABLE I, 3-4

## 2017 Hydrant Replacements

## Information to be included with DSIC-Eligible Project Notification

Project No.	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (new plant) (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
		Description	Pipe length/Quantity	Diameter/Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
H-25	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	hydrants	7	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	Tumbleweed, Seminole	12/2017	n/a	\$15,831	Replace 7 fire hydrants on Tumbleweed and Seminole between Cavern and Mountinside. The fire hydrants are in deteriorating condition and will be about 40 years old in 2017. These are Dresser hydrants, for which we can no longer obtain repair parts. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-25 in Exhibit CC-1 which shows the locations of the future replacements.
H-26	335	hydrants	9	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	Sunflower, Primrose	12/2017	n/a	\$20,354	Replace 9 fire hydrants on Sunflower and Primrose between Cactus and Mountinside. The fire hydrants are in deteriorating condition and will be about 40 years old in 2017. These are Dresser hydrants, for which we can no longer obtain repair parts. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-26 in Exhibit CC-1 which shows the locations of the future replacements.

H-27	335	hydrants	4	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	Ponderosa	12/2017	n/a	\$9,046	Replace 4 fire hydrants on Ponderosa between Primrose and Mountainside. The fire hydrants are in deteriorating condition and will be about 31 years old in 2017. These are Dresser hydrants, for which we can no longer obtain repair parts. Two hydrants have already needed replacement on this street. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-27 in Exhibit CC-1 which shows the locations of the future replacements.
H-28	335	hydrants	11	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	El Pueblo	12/2017	n/a	\$24,878	Replace 11 fire hydrants on El Pueblo between Fountain Hills Blvd and Escalante. The fire hydrants are in deteriorating condition and will be about 42 years old in 2017. These are Dresser hydrants, for which we can no longer obtain repair parts. Four hydrants have already needed replacement on this street. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-28 in Exhibit CC-1 which shows the locations of the future replacements.
H-29	335	hydrants	6	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	Oro Grande	12/2017	n/a	\$13,570	Replace 6 fire hydrants on Ironwood between Calle del Prado and Tejon. The fire hydrants are in deteriorating condition and will be 44 years old in 2017. These are Dresser hydrants, for which we can no longer obtain repair parts. Two hydrants have already needed replacement on this street. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-29 in Exhibit CC-1 which shows the location of the future replacements.
<b>Total</b>			<b>37</b>							<b>\$83,679</b>	

## SIB PLANT TABLE I, 3-5

## 2018 Hydrant Replacements

## Information to be included with DSIC-Eligible Project Notification

Project No.	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (new plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
		Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
H-30	335 Hydrants	hydrants	8	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	Alamosa	12/2018	n/a	\$18,093	Replace 8 fire hydrants on Alamosa between Del Cumbre and El Pueblo. The fire hydrants are in deteriorating condition and will be about 46 years old in 2018. These are Dresser hydrants, for which we can no longer obtain repair parts. One hydrant on this street already needed replacement. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-30 in Exhibit CC-1 which shows the locations of the future replacements.
H-31	335	hydrants	4	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	Caliente, Tejon	12/2018	n/a	\$9,046	Replace 4 fire hydrants on Caliente and Tejon between El Sobrante and El Pueblo. The fire hydrants are in deteriorating condition and will be about 45 years old in 2018. These are Dresser hydrants, for which we can no longer obtain repair parts. Four hydrants on this street have already needed replacement. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-31 in Exhibit CC-1 which shows the locations of the future replacements.



H-32	335	hydrants	6	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	El Sobrante	12/2018	n/a	\$13,570	Replace 6 fire hydrants on El Sobrante between Baca and Calvaras. The fire hydrants are in deteriorating condition and will be about 46 years old in 2018. These are Dresser hydrants, for which we can no longer obtain repair parts. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-32 in Exhibit CC-1 which shows the locations of the future replacements.
H-33	335	hydrants	13	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	Palisades	12/2018	n/a	\$29,401	Replace 13 fire hydrants on Palisades between Sage and Fountain Hills Blvd. The fire hydrants are in deteriorating condition and will be about 40 years old in 2018. These are Dresser hydrants, for which we can no longer obtain repair parts. Three hydrants have already needed replacement on this street. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-33 in Exhibit CC-1 which shows the locations of the future replacements.
H-34	335	hydrants	5	n/a	Cast Iron/ AVK Wet Barrel	\$2,262	Fountain Hills Blvd.	12/2018	n/a	\$11,308	Replace 5 fire hydrants on Fountain Hills Blvd between Palomino and Inca. The fire hydrants are in deteriorating condition and will be 41 years old in 2017. These are Dresser hydrants, for which we can no longer obtain repair parts. Replacing the hydrants will improve fire flow availability and response times in the event of fire at a customer's home or business. The hydrant replacements are for existing customers and not related to new growth. See the map for Project H-34 in Exhibit CC-1 which shows the location of the future replacements.
<b>Total</b>			<b>36</b>							<b>\$81,418</b>	

## 2014 Meter Replacements

### **Information to be included with SIB-Eligible Project Notification**

1

## SIB PLANT TABLE I, 4-2

2015 Meter Replacements  
Information to be included with SIB-Eligible Project Notification

Project No.	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (new plant) (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
		Description	Pipe length/Quantity	Diameter/Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
M-2	334	meters	1,357	¾" to >2"	Cooper/Plastic	¾"-\$195 1"-\$234 1½"-\$367 2"-\$447 >2"-\$1,223	Meter Routes 63 and 98 (see map M-2 in Exhibit CC-1)	12/2015	n/a	\$317,509	Replace 141 - ¾", 1192 - 1", 10 - 1.5", 13 - 2", and 1 - >2" (1,357 total) meters in CCWC meter routes 63 and 98. The existing meters are about 13 years old, and will be 15 years old in their replacement year. They are experiencing a rapid decline in meter accuracy. Prior to replacement, a 10% sample of the route meters will be tested for accuracy. The new meters will help reduce system water loss to below 10%. The meter replacements are for existing customers and not related to new growth. See Section 4 of the SIB Report (Exhibit CC-1) for more explanation. See map M-2 in Exhibit CC-1 for the location of the meter routes.
<b>Total</b>			<b>1,357</b>							<b>\$317,509</b>	

### **Information to be included with SIB-Eligible Project Notification**

	NARUC Acct No. (DSIC- eligible plant)	Replacement Plant Description (new plant) (DSIC-eligible plant)						Site (location description)	Replacement Plant			
		Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)			Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
Project No.	309 <b>Supply Mains</b>  331 T&D <b>Mains</b>  333 <b>Services</b>  334 <b>Meters</b>  335 <b>Hydrants</b>											
M-3	334	meters	1,327	¾" to 2"	Copper/ Plastic	¾"- \$195 1"- \$234 1½"- \$367 2"- \$447		Meter Routes 10, 23, 36, and 68 (see map M- 3 in Exhibit CC-1)	12/2016	n/a	\$277,493	
<b>Total</b>			<b>1,327</b>								<b>\$277,493</b>	

## 2017 Meter Replacements

Project No.	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (new plant) (DSIC-eligible plant)						Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
		Description	Pipe length/Quantity	Diameter/Size	Material	Installed Cost/Unit (estimated)	Expected In-Service Date		Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)		
M-4	309 Supply Mains 331 T & D Mains 333 Services 334 Meters 335 Hydrants	meters	1,588	¾" to >2"	Copper/Plastic	¾"- \$195 1"- \$234 1½"- \$367 2"- \$447 >2"- \$1,223	12/2017	n/a	\$328,953	Replace 1,335 - ¾", 215 - 1", 13 - 1.5", 23 - 2", and 2 - >2" (1,588 total) meters in CCWC meter routes 3, 4, 17, and 31. The existing meters are about 11-12 years old, and will be 15-16 years old in their replacement year. They are experiencing a rapid decline in meter accuracy. Prior to replacement, a 10% sample of the route meters will be tested for accuracy. The new meters will help reduce system water loss to below 10%. The meter replacements are for existing customers and not related to new growth. See Section 4 of the SIB Report (Exhibit CC-1) for more explanation. See map M-4 in Exhibit CC-1 for the location of the meter routes.		
<b>Total</b>			<b>1,588</b>						<b>\$328,953</b>			

### **Information to be included with SIB-Eligible Project Notification**

1

# **SIB Table II Template**

**(Exhibit CC-3)**

**EPCOR Water (USA) Inc.**

**Chaparral City Water Company/Fountain Hills**

**PWS ID No. 07-017**

**December 6, 2013**

## Water System Name and PWS ID No. 07-017

[illegible]



Project No.	Project Description	Estimated Cost (from TABLE I)	Actual Cost	The project cost to be used in calculating the SIB Revenue Requirement shall be the lesser of the actual project cost listed in SIB Plant Table II or 110 percent of the estimated cost listed in SIB Plant Table I as approved in Decision No. _____. Unit costs shall be used if actual units constructed are less than estimated in SIB Plant Table I.
<b>Total Cost</b>				

Chaparral City Water Company  
Docket No. W-02113A-13-0118  
Test Year Ended December 31, 2012

SIB Schedule A

LINE  
NO. CALCULATION OF OVERALL SIB REVENUE REQUIREMENT AND EFFICIENCY CREDIT

1	Total Authorized Revenue Requirement , Per Decision xxxxx, See Attached Schedules	TBD	
2	SIB Revenue CAP percentage	5%	Per Year
3	SIB Revenue CAP	TBD	
4	SIB Eligible Plant - Per SIB Table II, net of retirements	TBD	
5	Total Revenue Requirement, (with pro forma SIB investments). See attached revenue requirements schedules as provided by Company.	TBD	
6	SIB Revenue Requirement (line 5 minus line 1)	TBD	
7	SIB Revenue Requirement Efficiency Credit	5%	
8	SIB True-Up Adjustment (from SIB Schedule B)	TBD	
9	SIB Authorized Revenue (line 6 plus line 7 plus line 8)	TBD	
10	Number of Equivalent Meters, below	TBD	
11	Charge per 5/8" meter	TBD	

	No. of Customers at Year End	Multipliers	5/8 x 3/4-inch Equivalent Meters	Fixed Surcharge	Annual Rev by Meter Size
5/8 x 3/4-inch	TBD	1	TBD	TBD	TBD
3/4-inch	TBD	1.5	TBD	TBD	TBD
1-inch	TBD	2.5	TBD	TBD	TBD
1 1/2-inch	TBD	5	TBD	TBD	TBD
2-inch	TBD	8	TBD	TBD	TBD
3-inch	TBD	16	TBD	TBD	TBD
4-inch	TBD	25	TBD	TBD	TBD
6-inch	TBD	50	TBD	TBD	TBD
8-inch	TBD	80	TBD	TBD	TBD
10-inch	TBD	115	TBD	TBD	TBD
Totals	TBD		TBD		TBD

Chaparral City Water Company  
Docket No. W-02113A-13-0118  
Test Year Ended December 31, 2012

SIB Schedule B

CALCULATION OF SIB TRUE-UP REVENUE REQUIREMENTS ADJUSTMENT	YEARS				
	1	2	3	4	5
SIB Authorized Revenue , Per SIB Schedule A	TBD	TBD	TBD	TBD	TBD
Total SIB Surcharges collections for Period	TBD	TBD	TBD	TBD	TBD
SIB True-Up Adjustment	TBD	TBD	TBD	TBD	TBD

Note: The Company shall also provide an analysis of cumulative over or under collections and a net amount to be included in the SIB True-up Adjustment

Chaparral City Water Company  
Docket No. W-02113A-13-0118  
Test Year Ended December 31, 2012

SIB Schedule C

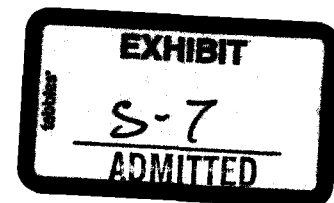
TYPICAL BILL IMPACTS  
3/4 -inch Customers

Per Dec. No. XXXXX (no SIB Surcharge)	Step 1			Step 2			Step 3			Step 4			Step 5		
	Total Bill w/ SIB Year 1 *	SIB Inc.	Cumulative % Increase	Total Bill w/ SIB Year 2 *	SIB Inc.	Cumulative % Increase	Total Bill w/ SIB Year 3 *	SIB Inc.	Cumulative % Increase	Total Bill w/ SIB Year 4 *	SIB Inc.	Cumulative % Increase	Total Bill w/ SIB Year 5 *	SIB Inc.	Cumulative % Increase
Gallons															
0	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
1000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
2000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
3000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
4000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
5000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
6000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
7000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
8000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
9000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
10000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
11000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
12000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
13000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
14000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
15000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
20000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
25000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Median (Cite Usage)	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Mean (Cite Usage)	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD

\*: Bills in Years 1 -5 are net of  
Efficiency Credit

[illegible]

**\*: SIB Revenues in Years 1 -5 are net of 5% Efficiency Credit**



BEFORE THE ARIZONA CORPORATION COMMISSION

BOB STUMP  
Chairman  
GARY PIERCE  
Commissioner  
BRENDA BURNS  
Commissioner  
BOB BURNS  
Commissioner  
SUSAN BITTER SMITH  
Commissioner

IN THE MATTER OF THE APPLICATION OF ) DOCKET NO. W-02113A-13-0118  
CHAPARRAL CITY WATER COMPANY )  
FOR A DETERMINATION OF THE CURRENT )  
FAIR VALUE OF ITS UTILITY PLANT AND )  
PROPERTY AND FOR INCREASE IN ITS )  
RATES AND CHARGES BASED THEREON )  
\_\_\_\_\_ )

DIRECT  
TESTIMONY  
OF  
KATRIN STUKOV  
UTILITIES ENGINEER  
UTILITIES DIVISION  
ARIZONA CORPORATION COMMISSION

DECEMBER 20, 2013

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Cost of Service Summary – Proposed Rates.....	Schedule G-2

**EXECUTIVE SUMMARY  
CHAPARRAL CITY WATER COMPANY  
COST OF SERVICE STUDY  
DOCKET NO. W-02113A-13-0118**

Katrin Stukov's testimony discusses Utilities Division Staff's ("Staff") review of Chaparral City Water Company's ("Chaparral" or "Company") Cost of Service Study ("COSS") for the rate case filed with the Arizona Corporation Commission ("Commission"), and presents the results of Staff's analysis.

Based on its review of Chaparral's COSS, Staff's conclusions and recommendations are as follows:

1. It is Staff's conclusion that Chaparral performed the COSS consistent with the methodology generally accepted in the industry, and developed all of the allocation factors appropriately.
2. Staff further concludes that, based on the evaluation of the COSS model utilized by Chaparral, the results of the COSS are satisfactory.
3. Staff further recommends that Chaparral's COSS cost allocation factors, and cost allocations modified by Staff as included under G Schedules, be accepted as reasonable in the instant case. The revised Schedules G-1 and G-2 are attached in Exhibit 1.

Staff's conclusions are limited to the specific facts of this case and shall not create any precedent regarding cost of service studies generally, and Staff may make different recommendations in other cases.



**I. INTRODUCTION**

**Q. Please state your name, place of employment and job title.**

A. My name is Katrin Stukov. My place of employment is the Arizona Corporation Commission ("Commission"), Utilities Division ("Staff"), 1200 West Washington Street, Phoenix, Arizona 85007. My job title is Utilities Engineer.

**Q. How long have you been employed by the Commission?**

A. I have been employed by the Commission since June 2006.

**Q. Please list your duties and responsibilities.**

A. As a Utilities Engineer, specializing in water and wastewater engineering, I inspect and evaluate water and wastewater systems, obtain data, prepare reports, suggest corrective action, provide technical recommendations on water and wastewater system deficiencies, and provide written and oral testimony on rate and other cases before the Commission.

**Q. How many cases have you analyzed for the Utilities Division?**

A. I have analyzed over 80 cases covering various responsibilities for the Utilities Division.

**Q. What is your educational background?**

A. I graduated from the Moscow University of Civil Engineering with a Bachelor of Science degree in Civil Engineering with a concentration in water and wastewater systems.

**Q. Briefly describe your pertinent work experience.**

A. Prior to my employment with the Commission, I was a design review environmental engineer with the Arizona Department of Environmental Quality ("ADEQ") for twenty years. My responsibilities with ADEQ included review of projects

1 for the construction of water and wastewater facilities. Prior to that, I worked as a civil  
2 engineer in several engineering and consulting firms, including Bechtel, Inc. and Brown &  
3 Root, Inc., in Houston, Texas.

4  
5 **Q. Did Staff perform an analysis of the application that is the subject of this**  
6 **proceeding?**

7 **A.** Yes, Staff's review of the Company's cost of service study was performed by Staff  
8 Engineer Prem Bahl who recently retired.

9  
10 **Q. Is your testimony herein based on Mr. Bahl's analysis?**

11 **A.** Yes, it is.

12  
13 **Q. What is the purpose of this Direct Testimony?**

14 **A.** The purpose is to discuss Staff's review of Chaparral's COSS for the rate case, and  
15 present the results of this review.

16  
17 **II. COST OF SERVICE STUDY - REVIEW PROCESS**

18 **Q. What does the COSS signify?**

19 **A.** There are three steps in performing a COSS. They are: 1) Functionalization; 2)  
20 Classification; and 3) Allocation. First, the COSS enables us to determine the system cost  
21 of service by classifying the utility's costs (investments and expenses) by function, such as  
22 commodity-related, demand-related, customer-related and Direct Fire-related functions.  
23 Customer-related functions are further broken down into customers and customer services.  
24 Second, the study breaks down these costs by customer classes to reflect as closely as  
25 possible the cost causation by respective customer classes. Third, the results of the COSS

1 provide a benchmark for the revenues needed from each customer category by  
2 appropriately allocating the revenue requirement for each customer class.

3 **Q. Is there a standard COSS model?**

4 A. There is no standard methodology for designing a COSS, but it is generally advisable to  
5 follow a range of alternatives to identify which allocations are more reasonable than  
6 others. For that reason, the COSS should be used as a general guide only and as one of  
7 many considerations in designing rates.

8  
9 **Q. Did Staff conduct a separate independent COSS?**

10 A. No. Staff did not conduct a separate independent COSS.  
11

12 **Q. What was the process Staff used in reviewing the Company's COSS?**

13 A. Staff reviewed the Company's overall COSS methodology, which is the Commodity-  
14 Demand methodology as outlined in the American Water Works Association Manual M1,  
15 "Principles of Water Rates, Fees, and Charges." The Commodity-Demand Method breaks  
16 down the costs of providing water service into four primary cost components: commodity  
17 costs (costs that tend to vary with the amount of water used by the customers), demand  
18 costs (costs associated with peak use/demand), customer costs (costs not associated with  
19 water use, such as billing) and direct fire protection costs. Staff then reviewed the G  
20 Schedules reflecting various allocation factors (for Commodity, Demand, Customer, and  
21 Direct Private Fire) in the COSS. Next, Staff reviewed the Test Year ("FYE December  
22 31, 2012") rate base, revenues and expenses in the filed rate case. Staff adjustments to  
23 rate base, revenues and expenses were incorporated in the appropriate G Schedules. The  
24 modified G Schedules G-1 and G-2 are attached under Exhibit 1.  
25

**III. CONCLUSIONS AND RECOMMENDATIONS**

**Q. What are Staff's conclusions and recommendations regarding the Cost of Service Study?**

**A. Based on the review of Chaparral's COSS, Staff's conclusions and recommendations are as follows:**

1. It is Staff's conclusion that Chaparral performed the COSS consistent with the methodology generally accepted in the industry, and developed the allocation factors appropriately, in accordance with the Staff recommended and Commission approved allocation factors in the Arizona Water Company's rate case (Docket No. W-01445A-08-0440).

2. Staff further concludes that, based on the evaluation of the COSS model utilized by Chaparral, the results of the COSS are satisfactory.

3. Staff further recommends that Chaparral's COSS cost allocations and factors be accepted as reasonable in the instant case. The G-Schedules G-1 and G-2 are listed under the attached Exhibit 1.

Staff's conclusions are limited to the specific facts of this case and shall not create any precedent regarding Cost of Service Studies generally, and Staff may make different recommendations in other cases.

**Q. Does this conclude your Direct Testimony?**

**A. Yes it does.**

## **EXHIBIT 1**

**Schedule G-1 Returns at Present Rates by Class**

**Schedule G-2 Returns at Proposed Rates by Class**

Chaparral City Water Company  
Test Year Ended December 31, 2012  
Cost of Service Study, Using Commodity-Demand Method  
Returns at Present Rates by Class

Line No.		Totals	Residential	Commercial	Irrigation	Hydrant
1	Water Revenues	\$ 8,958,295	\$ 7,271,313	\$ 665,426	\$ 988,711	\$ 32,846
2	Revenue Annualizations/Declining Usage	(10,471)	27,555	9,419	-	-
3	Misc. Revenues <sup>1</sup>	99,329	92,661	2,940	3,590	139
4	Reconciliation H-1 to C-1 <sup>1</sup>	(32,169)	(30,009)	(952)	(1,163)	(45)
5	Total Revenues	\$ 9,014,985	\$ 7,361,519	\$ 676,833	\$ 991,139	\$ 32,939
6						
7	Operating Expenses <sup>2</sup>	\$ 5,407,470	\$ 4,584,534	\$ 324,516	\$ 480,897	\$ 17,522
8	Depreciation and					
9	Amortization <sup>2</sup>	1,502,787	1,316,305	85,918	92,762	7,801
10	Property Tax <sup>3</sup>	232,210	189,620	17,434	25,530	848
11	Income Tax <sup>4</sup>	485,718	314,041	70,537	113,559	1,592
12	Total Operating Expenses	\$ 7,628,186	\$ 6,404,500	\$ 498,406	\$ 712,749	\$ 27,764
13	Operating Income	\$ 1,386,799	\$ 957,020	\$ 178,427	\$ 278,390	\$ 5,175
14	Interest Expense <sup>5</sup>	270,139	235,043	16,262	17,319	1,514
15	Net Income	\$ 1,116,660	\$ 721,976	\$ 162,164	\$ 261,071	\$ 3,661
16	Rate Base <sup>6</sup>	\$ 25,166,359	\$ 21,896,820	\$ 1,514,986	\$ 1,613,475	\$ 141,078
17	Return on Rate Base <sup>7</sup> (Operating Income Basis)	5.51%	4.37%	11.78%	17.25%	3.67%
18						
19	Percent of Total Customers		93.29%	2.96%	3.61%	0.14%
20						
21						
22						
23						
24						
25						

<sup>1</sup> Allocated based on customer counts.  
<sup>2</sup> Operating Expenses and Depreciation computations are shown on Schedules GWB Rev Req.  
<sup>3</sup> Property Taxes allocation based on Revenues  
<sup>4</sup> Income Tax from Schedule GWB-10, at proposed rates. Income Taxes allocated based on taxable income  
<sup>5</sup> Interest Synchronized Interest Expense per Schedule GWB-2. Allocation based on Rate Base.  
<sup>6</sup> Rate Base computations are shown on Schedule GWB-3.  
<sup>7</sup> Operating Income Divided by Rate Base

**Chaparral City Water Company**

Schedule G-2  
Page 1

Test Year Ended December 31, 2012

**Cost of Service Study, Using Commodity-Demand Method  
Returns at Proposed Rates by Class**

Line No.		Totals	Residential	Commercial	Irrigation	Hydrant
1	Water Revenues	\$ 10,003,764	\$ 8,102,465	\$ 744,846	\$ 1,116,850	\$ 39,603
2	Revenue Annualizations/Declining Usage	\$ (32,308)	(42,807)	10,499	-	-
3	Misc. Revenues <sup>1</sup>	99,329	92,661	2,940	3,590	139
4	Low Inc. Discount not deducted Line 1	(22,500)	(22,500)			
5	Total Revenues	\$ 10,048,285	\$ 8,129,818	\$ 758,285	\$ 1,120,440	\$ 39,742
6						
7	Operating Expenses <sup>2</sup>	\$ 5,416,666	\$ 4,593,112	\$ 324,789	\$ 481,230	\$ 17,535
8	Depreciation and					
9	Amortization <sup>2</sup>	1,502,787	1,316,305	85,918	92,762	7,801
10	Property Tax <sup>3</sup>	241,003	194,990	18,187	26,873	953
11	Income Tax <sup>4</sup>	874,456	598,084	104,603	167,782	3,988
12	Total Operating Expenses	\$ 8,034,912	\$ 6,702,491	\$ 533,497	\$ 768,647	\$ 30,277
13	Operating Income	\$ 2,013,373	\$ 1,427,328	\$ 224,789	\$ 351,793	\$ 9,464
14	Interest Expense <sup>5</sup>	270,139	235,043	16,262	17,319	1,514
15	Net Income	\$ 1,743,234	\$ 1,192,284	\$ 208,526	\$ 334,474	\$ 7,950
16	Rate Base <sup>6</sup>	\$ 25,166,359	\$ 21,896,820	\$ 1,514,986	\$ 1,613,475	\$ 141,078
17	Return on Rate Base <sup>7</sup> (Operating Income Basis)	8.00%	6.52%	14.84%	21.80%	6.71%
18						
19	Percent of Total Customers		93.29%	2.96%	3.61%	0.14%
20						

**Indicated Monthly Minimums and Single-Tier Commodity Rates for 3/4 Inch Meter**

	Sched. G-8, pg 4A	Sched. G-8, pg 4B	Sched. G-8, pg 4C	Sched. G-8, pg 4D	Sched. G-8, pg 4E
	All Classes	Residential	Commercial	Irrigation	Hydrant
Monthly Minimums	\$ -	\$ 18.45	\$ 19.02	\$ 22.08	\$ 14.78
Single-Tier Commodity Rate	\$ 3.319	\$ 3.512	\$ 2.925	\$ 2.424	\$ 5.378

<sup>1</sup> Allocated based on customer counts.

<sup>2</sup> Operating Expenses and Depreciation computations are shown on Schedules GWB Rev Req.

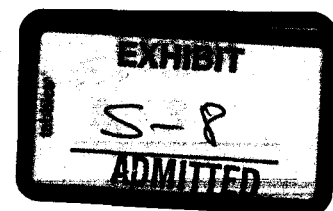
<sup>3</sup> Property Taxes allocation based on Revenues

<sup>4</sup> Income Tax from Schedule GWB-10, at proposed rates. Income Taxes allocated based on taxable income

<sup>5</sup> Interest Synchronized Interest Expense per Schedule GWB-2. Allocation based on Rate Base.

<sup>6</sup> Rate Base computations are shown on Schedule GWB-3.

<sup>7</sup> Operating Income Divided by Rate Base



BEFORE THE ARIZONA CORPORATION COMMISSION

BOB STUMP

Chairman

GARY PIERCE

Commissioner

BRENDA BURNS

Commissioner

BOB BURNS

Commissioner

SUSAN BITTER SMITH

Commissioner

IN THE MATTER OF THE APPLICATION )  
OF CHAPARRAL CITY WATER COMPANY )  
FOR A DETERMINATION OF THE )  
CURRENT FAIR VALUE OF ITS UTILITY )  
PLANT AND PROPERTY AND FOR )  
INCREASE IN ITS RATES AND CHARGES )  
BASED THEREON )

DOCKET NO. W-02113A-13-0118

DIRECT

TESTIMONY

OF

GERALD BECKER

EXECUTIVE CONSULTANT

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

DECEMBER 18, 2013



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**EXECUTIVE SUMMARY  
CHAPARRAL CITY WATER COMPANY  
DOCKET NO. W-02113A-13-0118**

Chaparral City Water Company ("CCWC" or "Company"), is a certificated Arizona public service corporation that provides water service in the Town of Fountain Hills in Maricopa County. The average number of customers per Company during the test year was approximately 13,600 customers in its 19 square mile service territory.

On April 26, 2013, CCWC filed an application for a rate increase using a test year ending December 31, 2012. Staff issued its letter of sufficiency on May 28, 2013.

CCWC states that it experienced an \$889,596 test year operating income resulting in a 3.26 percent rate of return. CCWC proposes a revenue increase of \$3,141,028 or 34.84 percent over the Company proposed test year revenues of \$9,014,985 to \$12,156,013. The Company's proposed revenue increase would produce an operating income of \$2,783,254 for a 10.21 percent rate of return on an original cost rate base ("OCRB") of \$27,269,321. The Company proposes to use OCRB as its fair value rate base.

Staff recommends a revenue increase of \$1,033,235 or 11.46 percent over the test year revenues of \$9,014,985 to \$10,048,220. The Staff recommended revenue increase would produce an operating income of \$2,013,309 for an 8.00 percent rate of return on a Staff adjusted OCRB of \$25,166,359.

1     **INTRODUCTION**

2     **Q.     Please state your name, occupation, and business address.**

3     A.     My name is Gerald Becker. I am an Executive Consultant III employed by the Arizona  
4            Corporation Commission ("Commission") in the Utilities Division ("Staff"). My business  
5            address is 1200 West Washington Street, Phoenix, Arizona 85007.

6  
7     **Q.     Briefly describe your responsibilities as an Executive Consultant III.**

8     A.     I am responsible for the examination and verification of financial and statistical  
9            information included in utility rate applications. In addition, I develop revenue  
10           requirements, and prepare written reports, testimonies, and schedules that include Staff  
11           recommendations to the Commission. I am also responsible for testifying at formal  
12           hearings on these matters.

13  
14    **Q.     Please describe your educational background and professional experience.**

15    A.     I received a Masters of Business Administration with an emphasis in Accounting from  
16            Pace University. I am a Certified Public Accountant and a Certified Internal Auditor. I  
17            am a member of the Arizona State Society of Certified Public Accountants.

18  
19            I have participated in multiple rate, financing and other regulatory proceedings. I attended  
20            the National Association of Regulatory Utility Commissioners ("NARUC") Utilities Rate  
21            School.

22  
23            I began employment with the Commission as a utilities regulatory analyst in April 2006.  
24            Prior to joining the Commission, I worked as an Auditor at the Department of Economic  
25            Security and Department of Revenue in the Taxpayer Assistance Section. Prior to those

1 jobs, I worked for 15 years as an Auditor, Analyst, Financial Analyst, and Budget  
2 Manager at United Illuminating, an investor-owned electric company in New Haven, CT.

3  
4 **Q. What is the scope of your testimony in this case?**

5 A. I am presenting Staff's analysis and recommendations in the areas of rate base, operating  
6 revenues and expenses, revenue requirement, and rate design recommendations in the rate  
7 case. Staff witness Katrin Stukov is presenting Staff's engineering analysis and  
8 recommendations. Staff witness John Cassidy is presenting Staff's recommendations  
9 regarding cost of capital.

10  
11 **Q. What is the basis of your recommendations?**

12 A. I performed a regulatory audit of the Company's application to determine whether  
13 sufficient, relevant, and reliable evidence exists to support the Company's requested rate  
14 increase. The regulatory audit consisted of examining and testing the financial  
15 information, accounting records, and other supporting documentation and verifying that  
16 the accounting principles applied were in accordance with the Commission-adopted  
17 NARUC Uniform System of Accounts ("USOA"). I also reviewed the Company's  
18 financing applications to determine the propriety and financial impacts of the proposed  
19 transactions.

20  
21 **BACKGROUND**

22 **Q. Please review the background of these applications.**

23 A. Chaparral City Water Company ("CCWC" or "Company"), is a certificated Arizona  
24 public service corporation that provides water service to customers in the Town of  
25 Fountain Hills in Maricopa County. CCWC is a wholly owned subsidiary of EPCOR  
26 Water (USA) Inc. ("EWUS").

1 The Company's current rates were authorized in Decision No. 72258, dated April 7,  
2 2011<sup>1</sup>. That Decision authorized a \$1,883,020 revenue increase that provided a 7.52  
3 percent rate of return on a \$27,506,414 fair value rate base, which was the average of the  
4 original cost rate base and the replacement cost new rate base amount.

5  
6 **CONSUMER SERVICE**

7 **Q. Please provide a brief history of customer complaints received by the Commission**  
8 **regarding the Company.**

9 **A.** A search of Consumer Services complaint files reveals the following customer complaints  
10 against Chaparral:

11  
12 2010 – two complaints- disconnects/terminations

13  
14 2012 – eight complaints – seven (billing), one (quality of service)

15  
16 2013 – two complaints – one (billing), one (disconnects/terminations)  
17 ten opinions - (rate case items – opposed)

18  
19 All complaints have been resolved and closed.

20  
21 **COMPLIANCE**

22 **Q. Please provide a summary of the compliance status of the Company.**

23 **A.** A check of the Utilities Division Compliance Database indicates that there are currently  
24 no delinquencies for the Company.

---

<sup>1</sup> See Decision No. 72258, Exhibit A, Scenario 3 in column (F) which superseded the "Restated Decision (No. 71308)" as shown in Decision No. 72258, Exhibit A, Column [C].

1 **RATE APPLICATION**

2 **Q. What are the primary reasons for the Company's requested permanent rate**  
3 **increase?**

4 **A. The Company's application states that during the test year, it earned only a 3.21 percent**  
5 **rate of return due to declining water sales, increases in its expenses, and over \$15 million**  
6 **in water infrastructure investments added since its last rate case.**

7  
8 **SUMMARY OF PROPOSED REVENUES**

9 **Q. Please summarize the Company's filing.**

10 **A. The Company proposes a revenue increase of \$3,141,028 or 34.84 percent over the**  
11 **Company proposed test year revenues of \$9,014,985 to \$12,156,013. The Company's**  
12 **proposed revenue increase would produce an operating income of \$2,783,254 for a 10.21**  
13 **percent rate of return on an original cost rate base ("OCRB") of \$27,269,321.**

14  
15 **Q. Please summarize Staff's recommended revenue.**

16 **A. Staff recommends a revenue increase of \$1,033,235 or 11.46 percent over the test year**  
17 **revenues of \$9,014,985 to \$10,048,220. The Staff recommended revenue increase would**  
18 **produce an operating income of \$2,013,309 for an 8.00 percent rate of return on a Staff**  
19 **adjusted OCRB of \$25,166,359.**

20  
21 **Q. What test year did the Company use in this filing?**

22 **A. The Company rate filing is based on the twelve months ended December 31, 2012 ("test**  
23 **year").**

24

1 Q. Please summarize the rate base and operating income recommendations and  
2 adjustments addressed in your testimony for the Company.

3 A. My testimony addresses the following issues:  
4

5 Utility Plant in Service ("UPIS") – There are three adjustments made to UPIS. One is to  
6 reclassify certain items of plant that are reclassified from capstone account 330,  
7 Distribution Reservoirs and Standpipes to account 330.1, Storage Tanks with a zero net  
8 impact on total UPIS. The second adjustment is based on analysis by Staff that UPIS  
9 should be adjusted by \$948,719 to reflect plant not yet in service. The third adjustment  
10 recalculates and reclassifies several plant items among various NARUC accounts and  
11 results in a net increase to UPIS of \$9,733. The net of these plant three plant adjustments  
12 decreases UPIS by \$938,986 from \$69,502,064 to \$68,563,078.  
13

14 Accumulated Depreciation – This adjustment recalculates that Company's amount to  
15 reflect Staff's recalculation of the Company's Accumulated Depreciation account balance.  
16 Staff adjustment increases Accumulated Depreciation by \$413,339 from \$25,734,123 to  
17 \$26,147,462.  
18

19 Deferred Debits – This adjustment decreases the Deferred Debits by \$607,898 from  
20 \$686,104 to \$78,206 to remove the Company's proposal to include \$607,898 for the  
21 unamortized balance of Post-in-Service Allowance for Funds Used during Construction  
22 ("AFUDC") and depreciation expense for Utility Plant in Service investments made  
23 between rate cases.  
24

25 Working Capital – This adjustment decreases the cash working capital component of  
26 Working Capital by \$142,739 from \$1,009,341 to \$866,602.



1        Purchased Water Expense – The net adjustment increases Purchased Water Expense by  
2        \$50,926 from \$1,065,953 to \$1,116,879 and is net of an increase of \$90,524 offset by a  
3        decrease of \$39,598. The increase of \$90,524 is made to reflect the latest Central Arizona  
4        Project (“CAP”) rates to be in effect in 2014 when the rates in this proceeding are  
5        expected to become effective. The Company had previously estimated the cost of  
6        purchased water based on information that was available at the time it filed its application  
7        but subsequently learned that the CAP rates had increased further. This adjustment  
8        reflects the latest available information and increases Purchased Water Expense by  
9        \$90,524 from \$1,065,953 to \$1,156,477. The adjusted amount of \$1,156,477 is reduced  
10       by \$39,598 to \$1,116,879 to remove purchased water costs related to continuing high  
11       water losses.

12  
13       Fuel and Power – This adjustment reduces Fuel and Power Expense by \$20,746 from  
14       \$605,885 to \$585,139 to remove the purchased pumping power costs related to continuing  
15       high water losses.

16  
17       Chemicals – This adjustment reduces Chemicals Expense by \$4,084 from \$119,266 to  
18       \$115,182 to remove the chemical expenses related to continuing high water losses.

19  
20       Intercompany Support Services – This adjustment reduced Intercompany Support Services  
21       by \$89,517 from \$500,330 to \$410,813 to remove incentive compensation paid to  
22       employees but not adequately explained or supported by the Company.

23  
24       Depreciation Expense – This adjustment decreases Depreciation Expense by \$511,261  
25       from \$2,014,048 to \$1,502,787.

1        Property Tax Expense – This adjustment decreases property tax expenses by \$18,828 from  
2        \$251,038 to \$232,210 to reflect the property tax obligation on Staff's adjusted test year  
3        taxable income and to reflect an 18.5 percent assessment valuation that is expected to  
4        apply to prospective revenues.

5  
6        Income Tax Expense – This adjustment increases income tax expense by \$96,306 from  
7        \$389,412 to \$485,718 to reflect income tax obligation on Staff's adjusted test year taxable  
8        income and to reflect a 6.5 percent state income tax rate that is expected to apply to  
9        prospective earnings.

10  
11        **RATE BASE**

12        *Fair Value Rate Base*

13        **Q.     Did the Company prepare schedules showing the elements of Reconstruction Cost**  
14        **New Rate Base?**

15        **A.     No, the Company did not. The Company requested that their original cost rate bases be**  
16        **treated as their fair value rate bases.**

17  
18        *Rate Base Summary*

19        **Q.     Please summarize Staff's adjustments to the Company's rate base shown on**  
20        **Schedules GWB-3 and GWB-4.**

21        **A.     Staff made adjustments to reduce the Company's rate base by \$2,102,962 from**  
22        **\$27,269,321 to \$25,166,359 as shown on Schedules GWB-3 and GWB-4.**

23

1 *Rate Base Adjustments – Utility Plant in Service ("UPIS")*

2 **Q. What amount of UPIS did the Company include in its rate base?**

3 A. The Company included \$69,502,064 in its UPIS which included actual UPIS of  
4 \$65,617,301 plus \$3,884,763 for post-test year plant.

5  
6 **Q. Did Staff identify adjustments to UPIS?**

7 A. Yes. Staff identified adjustments to reclassify \$6,235,113 from capstone account 330,  
8 Distribution Reservoirs and Standpipes to account 330.1, Storage Tanks, as shown on  
9 Schedules GWB-4 and GWB-5. Staff also identified adjustments to UPIS for post-test  
10 year plant not yet completed and reduces UPIS by \$948,719 from the Company's  
11 proposed test year plant of \$3,884,763 to \$2,936,044 as shown on Schedules GWB-4 and  
12 GWB-6. Staff also recalculated and reclassified UPIS among various UPIS accounts with  
13 a net increase to UPIS of \$9,733, as shown on Schedules GWB-4 and GWB-7. Also  
14 shown on Schedules GWB-4 and GWB-7, Staff recalculates Accumulated Depreciation  
15 balance by NARUC account, and Staff also identifies certain plant items that are fully  
16 depreciated and no longer subject to depreciation expense, as shown on Schedule GWB-7  
17 and GWB-16.

18  
19 *Rate Base Adjustment No. 1 – Reclassification*

20 **Q. Please explain Staff's recommended reclassification of UPIS.**

21 A. Reclassification:

22  
23 To reclassify certain items of plant from capstone account 330, Distribution Reservoirs  
24 and Standpipes to account 330.1, Storage Tanks, Staff recommends decreasing Account  
25 330, Distribution Reservoirs and Standpipes by \$6,235,113 from \$6,235,113 to zero and  
26 increasing Account 330.1, Storage Tanks by and account by \$6,235,113 from zero to

1       \$6,235,113. This reclassification provides a basis on which to depreciate this amount, as  
2       the capstone account does not bear its own depreciation rate.

3  
4       *Rate Base Adjustment No. 2 – Post-Test Year Plant*

5       **Q.     Please explain Staff's recommended adjustment to post-test year plant.**

6       **A.     Post-Test Year Plant:**

7  
8       Staff recommends a decrease to UPIS of \$948,719 from the Company's proposed test year  
9       plant of \$3,884,763 to \$2,936,044, as shown on Schedules GWB-4 and GWB-6. These  
10      adjustments are based on the Company's response to a Staff data request and a review of  
11      the Company's post-test year amounts. Staff recommends the following adjustments  
12      related to post-test year plant reflected in the following NARUC accounts, as shown on  
13      Schedules GWB-4 and GWB-6.

14  
15      Account 304 Structures and Improvements - General – Staff recommends increasing this  
16      account by \$39,378 from \$826,312 to \$865,690 for post-test year plant Office and  
17      Operations Center plant originally contemplated in Account 331 Transmission and  
18      Distribution Mains but more appropriately recorded in Account 304 Structures and  
19      Improvements- General.

20  
21      Account 311 - Pumping Equipment – Staff recommends reducing this account by  
22      \$130,000 from \$6,056,668 to \$5,926,668 for the project the Company describes as an  
23      Electrical Annual Program that has not yet been completed.

24  
25      Account 320.1 - Water Treatment Equipment – Staff recommends a net decrease of  
26      \$114,071 from \$6,960,463 to \$6,846,392. The net decrease consists of a decrease of

1       \$335,646 offset by an increase of \$221,575. Staff recommends reducing this account by  
2       \$335,646 because in its post-test year plant amounts, the Company proposes to include  
3       \$59,369 and \$350,000 for Shea Water Treatment Plant Filter Media and Shea Water  
4       Treatment Plant Improvement, respectively, for a total of \$409,369, but has spent \$73,035  
5       and \$688 for its Shea Water Treatment Plant Filter Media and Shea Water Treatment Plant  
6       Improvement, respectively, for a total of \$73,723. Deducting the total spent of \$73,723  
7       from the proposed amount of \$409,369 results in a reduction of \$335,646 to the account.  
8       Staff recommends increasing this account by \$221,575 to reflect additional costs incurred  
9       for the Well No. 10 Arsenic Treatment plant from \$793,374 to \$1,014,949.

10  
11       Account 330.1 - Storage Tanks – Staff recommends a net decrease of \$390,624 from  
12       \$6,235,113 to \$5,844,489 to reflect the net impact of two adjustments. Staff recommends  
13       an increase of \$96,376 from \$595,860 to \$692,236 to reflect additional costs incurred for  
14       the rehabilitation of Reservoir No. 2, to reflect actual costs incurred to date. Staff also  
15       recommends a decrease of \$487,000 from \$650,000 to \$163,000 for 2013 Recurring  
16       Projects – Facilities.

17  
18       Account 331 - Transmission and Distribution Mains – Staff recommends a net increase of  
19       \$223,733 from \$24,744,309 to \$24,968,041, to reflect actual costs incurred to date. In its  
20       schedule of post-test year plant, the Company proposes \$53,577 and \$300,000 for (its)  
21       Distribution System and Distribution Improvements, respectively, for a total of \$353,577.  
22       Staff recommends \$66,964 for Distribution System, \$1,453 for Distribution  
23       Improvements, \$212,350 for Miscellaneous System Improvements, \$93,715 for main  
24       breaks, \$4,633 for new valves, \$144,905 of valve replacements, and \$53,290 of mains, for  
25       a total of \$577,310 and a net increase of \$223,733.  
26

1        Account 333 - Services – Staff recommends a decrease of \$328,325 from \$11,300,767 to  
2        \$10,972,442. In its schedule of post-test year plant, the Company proposes to include  
3        \$410,000, and Staff recommends a reduction of \$328,325 from \$410,000 to \$81,675 to  
4        reflect actual costs incurred to date.

5  
6        Account 334 - Meters – Staff recommends a decrease of \$271,726 from \$3,216,068 to  
7        \$2,944,342. In its schedule of post-test year plant, the Company proposes to include  
8        \$300,000 of meter replacements, and Staff recommends a reduction of \$271,726 from  
9        \$300,000 to \$28,274 to reflect actual costs incurred to date.

10  
11       Account 335 - Hydrants – Staff recommends an increase of \$523 from \$2,029,913 to  
12       \$2,030,436. In its schedule of post-test year plant, the Company proposes to include  
13       \$10,000 of hydrants, and Staff recommends an increase of \$523 from \$10,000 to \$10,523  
14       to reflect actual costs incurred to date.

15  
16       Account 339 - Other Transmission and Distribution Plant – Staff recommends a decrease  
17       of \$22,319 from \$132,558 to \$110,239. In its schedule of post-test year plant, the  
18       Company proposes to include \$132,558 for a Comprehensive Planning Study. Although,  
19       the Company indicates in response to a Staff data request that it had spent a total of  
20       \$220,478, the Company also indicates that part of the study includes a review of Well No.  
21       11 which is out of service. For this reason, Staff recommends a 50 percent disallowance  
22       of the reported spending of \$220,478, or \$110,239, to leave \$110,239 in the account  
23       balance.

24  
25       Account 341 - Transportation Equipment – Staff recommends an increase of \$389 from  
26       \$503,910 to \$504,299. In its schedule of post-test year plant, the Company proposes to

1 include \$9,248 of equipment, and Staff recommends an increase of \$389 from \$9,248 to  
2 \$9,637 to reflect actual costs incurred to date.

3  
4 Account 343 - Power Operated Tools and Equipment – Staff recommends an increase of  
5 \$48,151 from \$222,439 to \$270,590. In its schedule of post-test year plant, the Company  
6 proposes to include \$31,777 of tools and equipment, and Staff recommends an increase of  
7 \$48,151 from \$31,777 to \$79,928 to reflect actual costs incurred to date.

8  
9 Account 346 - Communications Equipment – Staff recommends a decrease of \$3,828  
10 from \$102,326 to \$98,498. In its schedule of post-test year plant, the Company proposes  
11 to include \$59,000 for its Internet Protocol Telephony (“IPT”) Deployment. Staff  
12 recommends \$44,932 for its IPT Deployment and \$10,240 for Supervisory Control and  
13 Data Acquisition System and Firewall project, for a total of \$55,172, for a net decrease of  
14 \$3,828 to reflect actual costs incurred to date.

15  
16 *Rate Base Adjustment No. 3 – Recalculation of UPIS and Accumulated Depreciation*

17 UPIS

18 **Q. Would you please review the pertinent background information associated with the**  
19 **Company’s UPIS included in the application by the Company for a rate increase?**

20 **A.** The Company provided Schedule E-5 as part of the rate application. The schedule  
21 represents the balances of individual NARUC plant accounts as of December 31, 2012.  
22 Schedule E-5 is exclusive of post-test year plant.  
23

1 **Q. During the processing of the application, did the Company provide other**  
2 **information regarding the plant balances?**

3 **A.** Yes, in response to data requests from Staff and the Residential Utilities Consumer Office  
4 ("RUCO"), the Company provided additional schedules detailing UPIS as of December  
5 31, 2012. However, Staff notes that as of this writing there are outstanding requests for  
6 copies of invoices substantiating additions to UPIS, and Staff reserves the opportunity to  
7 make adjustments in its surrebuttal testimony based on the Company's responses, or lack  
8 thereof, to outstanding data requests.

9  
10 **Q. Did the supporting schedules actually provided by the Company calculate to the**  
11 **amount included on Schedule E-5 of the application?**

12 **A.** No, and as a result, Staff recommends adjustments to the gross UPIS as indicated on  
13 Schedules GWB-4 Column [E] and GWB-7.

14  
15 **Q. Please summarize Staff recommended adjustments to UPIS.**

16 **A.** Staff recommends adjustments in two areas:

17  
18 The Company provided a plant 'roll forward' schedule that uses the UPIS balance in the  
19 prior test year (2006) as its starting point but excludes from its starting point adjustments  
20 approved in the last rate case and instead treats those adjustments related to the 2006 test  
21 year Additions, Retirements, and Adjustments in subsequent years.

22  
23 Using the Company's schedule of plant additions, retirements, and adjustments since the  
24 last rate case, Staff eliminates certain activity identified by the Company as relating to the  
25 prior rate case, and Staff developed its own 'roll forward' schedule starting with UPIS  
26 amounts as January 1, 2007, to reflect amounts approved in the last rate case (net of all



1 adjustments approved in the prior proceeding). Staff's results did not match the amounts  
2 shown on the Company application Schedule E-5 and Staff recommends adjustments to  
3 the UPIS.

4  
5 The Company's schedule did not include retirements disclosed by an external audit of the  
6 Company as of December 31, 2012. These retirements are described as an "audit  
7 misstatement" of two vehicles sold but not removed from the accounts. The Company did  
8 not include this adjustment in the application schedule E-5, and has agreed to a decrease to  
9 plant balance in the amount of \$77,349 in Account 341 Transportation Equipment.

10  
11 **Q. What does Staff recommend?**

12 **A.** Staff recommends the adoption of the UPIS and Accumulated Depreciation balances  
13 (discussed below) as recalculated by Staff to reflect adjustment to UPIS in the last rate  
14 case becoming effective with the test year used in the last rate case, along with the  
15 retirements for plant retirements not recorded as shown on Schedule GWB-7.

16  
17 **ACCUMULATED DEPRECIATION**

18 **Q. Would you please review the pertinent background information associated with the**  
19 **Company's accumulated depreciation and depreciation expense included in the**  
20 **application for a rate increase?**

21 **A.** The Company's application included Schedule B-2, indicating accumulated depreciation  
22 in the amount of \$25,734,123 and Company Schedule C-2, showing that the Company  
23 expects to incur depreciation expense of \$2,484,451 on a going forward basis.

24

1 **Q. Please provide a brief summary of Staff adjustments to Accumulated Depreciation**  
2 **and the impact on depreciation expense.**

3 A. Staff calculated Accumulated Depreciation since the last rate case ending in test year  
4 December 31, 2006. Some groups of assets were fully depreciated by the end of test year  
5 ending December 31, 2012, and Staff stopped accumulating depreciation for these asset  
6 groups. Going forward, Staff eliminated the fully depreciated plant amounts from its  
7 calculation of test year depreciation expense. Staff recommends an increase of \$413,339  
8 from \$25,734,123 to \$26,147,462.

9  
10 **Q. What amount of Accumulated Depreciation did the Company propose?**

11 A. The Company proposes \$25,734,123 of Accumulated Depreciation.  
12

13 **Q. Did Staff identify adjustments to Accumulated Depreciation?**

14 A. Yes. Staff recommends an increase of \$413,339 from \$25,734,123 to \$26,147,462.  
15

16 **Q. Does Staff recommend that depreciation expense no longer be recorded on certain**  
17 **plant based on its review of Accumulated Depreciation balances?**

18 A. Yes. Staff recommends that certain plant no longer be subject to depreciation as discussed  
19 more fully below. These fully depreciated plant items are also removed from depreciable  
20 balances as shown on Column [B] of Schedule GWB-16.  
21

22 **Q. Did Staff adjust Accumulated Depreciation and depreciation expense for NARUC**  
23 **account 341 Transportation Equipment?**

24 A. Yes, NARUC account 341 Transportation Equipment is depreciated at a rate of 20 percent  
25 per year. Since it is over five years since the last rate case, the amount in plant from the  
26 year 2008 and prior year would be fully depreciated at the end of 2012. Staff calculated

1 the amount of \$400,233 as fully depreciated plant in this account. Staff recommends that,  
2 for rate making purposes, no further depreciation be calculated on this amount of plant and  
3 that the amount be removed from the calculation of depreciation expense.

4  
5 **Q. Did Staff adjust Accumulated Depreciation and depreciation expense for NARUC**  
6 **account 340 Office Furniture and Equipment?**

7 A. Yes, NARUC account 340 Office Furniture and Equipment shows a gross plant amount of  
8 \$272,173 and accumulated depreciation of \$392,544. Retirements of \$5,200 in 2007 and  
9 \$2,266 in 2008 were removed from plant and accumulated depreciation of the 2006 rate  
10 case, leaving an amount of \$264,394 in gross plant and \$385,078 in accumulated  
11 depreciation. Staff recommends that, for rate making purposes, no further depreciation be  
12 calculated on plant of \$264,394 and that this amount be removed from the calculation of  
13 depreciation expense.

14  
15 **Q. Please describe the amount Staff recommends be considered fully depreciated for**  
16 **NARUC account 311 Pumping Equipment.**

17 A. NARUC account 311 Pumping Equipment plant balance as of the last rate case was  
18 \$1,588,246 and accumulated depreciation of \$881,086. Since the last rate case in test year  
19 2006, an amount of \$1,825,385 was re-classified as belonging in the account. The Plant as  
20 of January 1, 2007 is \$3,413,631 ( $1,588,246 + \$1,825,385$ ) and accumulated depreciation  
21 of \$1,893,726 ( $\$881,086 + \$1,012,640$ ) or 55.48 per cent of the plant balance.

22  
23 Retirements were removed from this plant account and from the accumulated depreciation  
24 balance for this account. Staff calculated depreciation on the plant from January 1, 2007  
25 until the year 2010. During 2010, the January 1, 2007 plant balance was fully depreciated.  
26 Staff recommends that for rate making purposes, the Company no longer calculate

1 depreciation on the amount of \$3,365,052 and that this amount be removed from the  
2 calculation of depreciation expense.

3  
4 *Rate Base Adjustment No. 4 – AFUDC Deferral*

5 **Q. What amount of AFUDC Deferral did the Company propose to be included in its**  
6 **Deferred Debits?**

7 A. The Company proposes to include \$686,104 of Deferred Debits in its rate base. This  
8 includes a pro forma adjustment of \$607,898 to reflect the unamortized balance of  
9 deferred Post-in-Service AFUDC and depreciation expense for investment in Utility Plant  
10 in Service between rate cases. In its application the Company references its (then)  
11 pending application in Docket No. W-02113A-12-0427 in which the Company seeks  
12 approval of an accounting order to record certain deferrals. The Company also cites to the  
13 Goodman Water case in Docket No. W-02500A-10-0082 which states that “deferral of  
14 depreciation (a component of the deferral (requested)) ... is not retroactive ratemaking”.<sup>2</sup>  
15

16 **Q. Does Staff agree with the Company’s proposal?**

17 A. No. Staff does not support inclusion of this Deferred Debit. Staff notes that the  
18 Commission did not render a decision in the Company’s other docket No. W-02113A-12-  
19 0427 and that the Commission is not bound in this proceeding by the findings in the  
20 Goodman Water case in Docket No. W-02500A-10-0082. Staff also notes that on  
21 November 20, 2013, Docket Nos. W-02113A-12-0427 (along with Docket Nos. W-  
22 01303A-12-0427, SW-01303A-12-0427) and were administratively closed.  
23

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<sup>2</sup> See Company application, testimony of Thomas M. Broderick, page 22 at 10-13.

1     **Q.     What does Staff recommend?**

2     A.     Staff recommends a decrease of \$607,898 from \$686,104 to \$78,206 to remove the  
3           Company's proposal to include \$607,898 in deferred Post-in-Service AFUDC in rate base.

4  
5     *Rate Base Adjustment No. 5 – Working Capital*

6     **Q.     Please describe the working capital adjustment to rate base.**

7     A.     Working Capital is the collective term that typically includes amounts for prepaid  
8           expenses, materials and supplies inventory, and cash working capital. Schedules GWB-  
9           8A and GWB-8B provide the calculations of the Company's proposed cash working  
10          capital and Staff's recommended adjustments to the cash working capital. Staff's  
11          adjustments relate to the cash working capital component of Working Capital only.

12          The purpose of calculating a cash working capital allowance is to quantify the amount of  
13          cash that a company needs to operate by analyzing the timing differentials between the  
14          period required for revenues to be realized and collected and the periods between the date  
15          that an expense is incurred and the date paid. A lead lag study summarizes the differences  
16          between the collection of revenues and the payment of expenses and creates a cash  
17          working capital allowance which is added to or subtracted from the Company's rate base,  
18          depending on whether the allowance is positive or negative.

19  
20    **Q.     Did the Company provide a schedule in support of its cash working capital**  
21          **requirement?**

22    A.     Yes.

23  
24    **Q.     Does Staff agree with the Company's calculation of its cash working capital?**

25    A.     Yes, with two exceptions, Staff agrees with the Company's calculation. Staff  
26          recommends the removal of regulatory expense and the inclusion of interest expense.

1 Regulatory (or rate case) expense is non-recurring and is typically excluded from the  
2 calculations of cash working capital. Although 'below the line', interest expense is  
3 included as it is recovered through revenues which are included in the calculation.  
4

5 **Q. What does Staff recommend?**

6 A. Staff recommends a decrease of \$142,739 from \$1,009,342 to \$866,602 to reflect the  
7 reduced amount of cash working capital, as shown on Schedules GWB-4 and GWB-9.  
8

9 **OPERATING INCOME**

10 *Operating Income Summary*

11 **Q. What are the results of Staff's analysis of test year revenues, expenses and operating**  
12 **income for the Company?**

13 A. Staff's analysis resulted in test year revenues, expenses, and operating income of  
14 \$9,014,985, \$7,628,186, and \$1,386,800, respectively.  
15

16 **Q. Is Staff recommending any adjustments to operating income in this case?**

17 A. Yes. Staff recommends the following adjustments.  
18

19 *Operating Income Adjustment No. 1 – Excess Water Loss*

20 **Q. Did the Company experience water losses in excess of 10 percent during the test**  
21 **year?**

22 A. Yes. As described in the testimony of Staff witness Katrin Stukov, the Company  
23 experienced a water loss of 13.9 percent during the test year.  
24

1     **Q.     Did Staff adjust Purchased Water, Purchased Power and Chemicals Expense?**

2     A.     Yes. Staff reduces Purchased Power and Chemicals Expense by \$39,598, \$20,746 and  
3           \$4,084, respectively.

4  
5     **Q.     Why did Staff adjust Purchased Water, Purchased Power and Chemicals Expense?**

6     A.     The Company has water loss greater than that recommended by Staff, as discussed in  
7           greater detail by Staff witness, Katrin Stukov. The cost of the purchased power used to  
8           pump the water that is lost does not provide a benefit to customers; consequently Staff  
9           reduced the purchased power to correspond to the portion of the water loss that is above  
10          Staff's recommended maximum level of 10 percent. Similarly, the cost of chemicals to  
11          treat water that is lost does not provide a benefit to customers; consequently Staff reduced  
12          the purchased power to correspond to the portion of the water loss that is above Staff's  
13          recommended maximum level of 10 percent. Similarly, Staff reduces the cost of  
14          purchased water to account for excess water loss that does not provide a benefit to the  
15          customers.

16  
17    **Q.     What is Staff's recommendation?**

18    A.     Staff recommends decreasing the purchased water by \$39,598 from \$1,156,477 to  
19           \$1,116,879, purchased power by \$20,746 from \$605,885 to \$585,139 and chemicals  
20           expense by \$17,132 from \$119,266 to \$102,135, to remove the purchased pumping and  
21           chemical costs related to continuing high water losses and as shown on Schedules GWB-  
22           11 and GWB-12.

23

*Operating Income Adjustment No. 2 – Intercompany Support Services*

**Q. Did Staff adjust the Intercompany Support Services Expense proposed by the Company?**

A. Yes, the Company proposes to include \$89,517 incentive compensation paid to employees. The Company's response to a Staff data request seeking clarification and the reasons that this cost was necessary in order to provide safe and reliable service to its ratepayers is not yet received.

**Q. What is Staff's recommendation?**

A. Staff recommends a decrease of \$89,517 from \$500,330 to \$410,813 to reflect the unsupported amounts paid as incentive compensation.

*Operating Income Adjustment No. 3 – Purchased Water Expense*

**Q. Did Staff adjust the Purchased Water Expense account?**

A. Yes.

**Q. What is the amount of total Purchased Water Expense proposed by the Company?**

A. The Company proposes \$1,065,953 of purchased water expense. This amount was based on the latest information available to the Company when it filed its application.

**Q. What adjustments did Staff make?**

A. In response to a Staff data request, the Company stated that it had obtained new rates from CAGR and that the expense expected in 2014 when rates become effective has increased an additional \$90,524 from \$1,065,953 to \$1,156,477. Staff has recommended this increase as shown on Schedules GWB-11 and GWB-14. As discussed above in Operating



1 Income Adjustment No. 1, Staff reduces the adjusted balance of \$1,156,477 to \$1,116,879  
2 for excess water losses, as shown on Schedules GWB-11 and GWB-12.  
3

4 *Operating Income Adjustment No. 4 – Depreciation and Amortization Expense*

5 **Q. What is the Company proposing for Depreciation and Amortization Expense?**

6 A. The Company proposes Depreciation and Amortization Expense of \$2,014,048. The  
7 Company's Depreciation and Amortization Expense includes \$15,641 to amortize the  
8 deferral of 50 percent of charges known as Municipal and Industrial, or M&I, charges of  
9 \$78,206 associated with 1,931 acre feet of CAP water over a 5 year period; plus \$23,586  
10 to amortize the Company's proposed deferral of post-in-service AFUDC and Deferred  
11 Depreciation of \$607,898 at the Company's proposed composite depreciation rate of 3.88  
12 percent; less \$76,000 for the amortization of 50 percent of the gain of \$1,520,000 on the  
13 sale of property transferred to the Fountain Hills Sanitary District, or \$760,000, to be  
14 amortized over 10 years.  
15

16 **Q. What adjustments did Staff make to depreciation expense?**

17 A. As discussed above in Rate Base Adjustment No. 2 and as shown on Schedules GWB-4  
18 and GWB-6, Staff removed certain items of post-test year plant. Accordingly, these items  
19 of plant are not included in the amounts subject to depreciation, as shown on Schedule  
20 GWB-16.  
21

22 As discussed above in Rate Base Adjustment No. 3, Staff has determined that certain  
23 items of plant are fully depreciated and no longer subject to depreciation and has removed  
24 those amounts, as shown on Schedule GWB-16.  
25

1 As discussed above in Rate Base Adjustment No. 4, Staff removes \$607,898 from  
2 Deferred Debits to remove the Company's proposed deferral of post-in-service AFUDC  
3 and Deferred Depreciation of \$607,898. Accordingly, Staff's calculation of depreciation  
4 expense does not include amortization of the Company's proposed deferral of post-in-  
5 service AFUDC and Deferred Depreciation of \$607,898 at 3.88 percent, or \$23,586.

6  
7 As shown on schedule GWB-16, Staff's calculation does include recognition of the  
8 amortization of deferred CAP costs, or \$15,641, and the amortization of the gain on the  
9 sale of property to the Fountain Hills Sanitation District of \$76,000. Staff does not  
10 recommend the inclusion of the amortization of the deferral of post-in-service AFUDC  
11 and Deferred Depreciation because Staff removes the deferral from its recommended rate  
12 base.

13  
14 **Q. What adjustments did Staff make to Depreciation and Amortization Expense?**

15 A. Staff recommends a decrease to Depreciation and Amortization Expense of \$511,261 from  
16 \$2,014,048 to \$1,502,787 as shown on Schedules GWB-11 and GWB-16.

17  
18 *Operating Income Adjustment No. 5 – Property Taxes*

19 **Q. Please describe the Company's proposal for Property Taxes.**

20 A. The Company proposes Property Taxes of \$251,038, reflecting an Assessment Ratio of 20  
21 percent for 2013, which the Company cites to HB2784.

22  
23 **Q. Does Staff agree with the Company's proposal for Property Taxes.**

24 A. No. First, Staff referred to ARS 42-15001 and notes that the Assessment Ratio for 2013 is  
25 19.5 percent. Second, Staff recognizes that any rates approved in this proceeding will  
26 likely be in effect starting in 2014 and through 2016 and recommends the use of

1           Assessment Ratios that will be in effect in years after 2013. The Assessment Ratios are  
2           19.0 percent, 18.5 percent, and 18.0 percent for 2014, 2015, and 2016, respectively, for an  
3           average Assessment Ratio of 18.5 percent.  
4

5       **Q.     What does Staff recommend?**

6       A.     Staff recommends the use of an 18.5 percent Assessment Ratio to be used in the  
7           calculation of Property Taxes for a decrease of \$18,828 from \$251,038 to \$232,210.  
8

9       *Operating Income Adjustment – Income Taxes*

10      **Q.     Please describe the Company's proposal for Income Taxes.**

11      A.     The Company proposes Income Taxes of \$389,412. The Company proposes to use a tax  
12           rate of 6.968 percent on Arizona taxable income.  
13

14      **Q.     Did Staff make any adjustments to test year Income Taxes?**

15      A.     Yes. Staff's adjustment reflects Staff's calculation of the income tax expense based upon  
16           Staff's adjusted test year taxable income. Staff also uses a tax rate of 6.5 percent on  
17           Arizona taxable income, for reasons which are similar to those as described above in  
18           Staff's recommended adjustment to Property Taxes.  
19

20      **Q.     What is Staff's recommendation?**

21      A.     Staff recommends an increase of \$96,306 from \$389,412 to \$485,718 to Income Tax  
22           Expense.  
23



1 **OTHER CONSIDERATIONS**

2 *Sustainable Water Surcharge*

3 **Q. Please describe the Company's proposal regarding a Sustainable Water Surcharge.**

4 A. In its application, the Company states that its purchased water expense is significant and  
5 that it has not been recovering the full cost of its purchased water. The Company further  
6 states that the cost of its purchased water has increased at a rate that is disproportionately  
7 higher than its other O&M expenses. The Company also states that the expenses are  
8 likely to increase significantly in part due to the potential effects of EPA rulemaking on  
9 the Navajo Generating Station which provides virtually all of the electricity to the Central  
10 Arizona Water Conservation District.

11  
12 The Company's proposal is for a surcharge to cover increases or decreases in its  
13 purchased water expense. Such proposal would include a tariff filing showing the annual  
14 water costs as approved in the case with the projected annual water costs for the following  
15 year, along with any cumulative deficit or surplus associated with prior under or over  
16 collections. The Company also proposes that the first SWS tariff filing would be based on  
17 the adjusted 2012 test year water expense.

18  
19 **Q. What is Staff recommending?**

20 A. In essence the Company is proposing a purchase water adjustor. Since most of its water is  
21 purchased CAP water, Staff recommends that the Company file a more detailed plan of  
22 administration for its Sustainable Water Surcharge, in the form of a purchased water  
23 adjustor, as soon as possible but no later than its rebuttal testimony.

24

1 *Declining Usage Adjustment –*

2 **Q. Did the Company propose a declining usage adjustment?**

3 A. Yes. In its application, the Company proposes a declining usage adjustment based on  
4 events that occurred before the test year.

5  
6 **Q. Does Staff agree with the adoption of a declining usage adjustment?**

7 A. Yes, but for reasons that are different from those offered by the Company. Staff  
8 recommends that events prior to the test year are already reflected in test year results and  
9 warrant no adjustment. Instead, Staff bases its recommendation on the Company's  
10 response to a Staff data request which sought information and confirmation that  
11 consumption patterns had continued to change during the post-test year period. Based on  
12 its review of this information, Staff recommends adoption of a declining usage adjustment  
13 proposed by the Company but on the basis of the adjustment being a post-test year event.  
14 As a post-test year event, this adjustment is based on a known and measurable change to  
15 the test year activity rather than on events that predate and are already reflected in the test  
16 year results.

17  
18 **Q. Does this conclude your direct testimony?**

19 A. Yes, it does.

**DIRECT TESTIMONY OF GERALD BECKER**

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GWB- 3	RATE BASE - ORIGINAL COST
GWB- 4	SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS
GWB- 5	RATE BASE ADJUSTMENT #1 RECLASSIFICATION
GWB- 6	RATE BASE ADJUSTMENT #2 POST TEST YEAR PLANT
GWB- 7	RATE BASE ADJUSTMENT #3 UPIS AND ACCUMULATED DEPRECIATION
GWB- 8	RATE BASE ADJUSTMENT #4 REVERSAL OF AFUDC AND DEFERRED DEPRECIATION DEFERRAL
GWB- 9	RATE BASE ADJUSTMENT #5 CASH WORKING CAPITAL
GWB- 10	OPERATING INCOME STATEMENT - TEST YEAR AND STAFF RECOMMENDED
GWB- 11	SUMMARY OF OPERATING INCOME ADJUSTMENTS - TEST YEAR
GWB- 12	OPERATING INCOME ADJUSTMENT #1 - EXCESS WATER LOSS
GWB- 13	OPERATING INCOME ADJUSTMENT #2 - INCENTIVE COMPENSATION
GWB- 14	OPERATING INCOME ADJUSTMENT #3 - PURCHASED WATER EXPENSE
GWB- 15	NOT USED
GWB- 16	OPERATING INCOME ADJUSTMENT #4 - DEPRECIATION EXPENSE
GWB- 17	OPERATING INCOME ADJUSTMENT #5 - INCOME TAXES
GWB- 18	OPERATING INCOME ADJUSTMENT #6 - PROPERTY TAX EXPENSE GRCF COMPONENT

REVENUE REQUIREMENT

LINE NO.	DESCRIPTION	(A) COMPANY ORIGINAL COST	(B) COMPANY FAIR VALUE	(C) STAFF ORIGINAL COST	(D) STAFF FAIR VALUE
1	Adjusted Rate Base	\$ 27,269,321	\$ 27,269,321	\$ 25,166,359	\$ 25,166,359
2	Adjusted Operating Income (Loss)	\$ 889,596	\$ 889,596	\$ 1,386,800	\$ 1,386,800
3	Current Rate of Return (L2 / L1)	3.26%	3.26%	5.51%	5.51%
4	Required Rate of Return	10.21%	10.21%	8.00%	8.00%
5	Required Operating Income (L4 * L1)	\$ 2,783,254	\$ 2,783,254	\$ 2,013,309	\$ 2,013,309
6	Operating Income Deficiency (L5 - L2)	\$ 1,893,658	\$ 1,893,658	\$ 626,509	\$ 626,509
7	Gross Revenue Conversion Factor	1.658709	1.658709	1.649195	1.649195
8	Required Revenue Increase (L7 * L6)	\$ 3,141,028	\$ 3,141,028	<b>\$ 1,033,235</b>	<b>\$ 1,033,235</b>
9	Adjusted Test Year Revenue	\$ 9,014,985	\$ 9,014,985	\$ 9,014,985	\$ 9,014,985
10	Proposed Annual Revenue (L8 + L9)	\$ 12,156,013	\$ 12,156,013	\$ 10,048,220	\$ 10,048,220
11	Required Increase in Revenue (%)	34.84%	34.84%	11.46%	11.46%
12	Rate of Return on Common Equity (%)	11.05%	11.05%	9.30%	9.30%

References:

Column (A): Company Schedule A-1

Column (B): Company Schedule A-1

Column (C): Staff Schedules GWB-2, GWB-3, and GWB-10



GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	(A)	(B)	(C)
<u>Calculation of Gross Revenue Conversion Factor:</u>				
1	Revenue	100.0000%		
2	Uncollectible Factor (Line 11)	0.5492%		
3	Revenues (L1 - L2)	99.4508%		
4	Combined Federal and State Income Tax and Property Tax Rate (Line 23)	38.8152%		
5	Subtotal (L3 - L4)	60.6356%		
6	Revenue Conversion Factor (L1 / L5)	1.649195		
<u>Calculation of Uncollectible Factor:</u>				
7	Unity	100.0000%		
8	Combined Federal and State Tax Rate (Line 17)	38.2900%		
9	One Minus Combined Income Tax Rate (L7 - L8)	61.7100%		
10	Uncollectible Rate	0.8900%		
11	Uncollectible Factor (L9 * L10)		0.54922%	
<u>Calculation of Effective Tax Rate:</u>				
12	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%		
13	Arizona State Income Tax Rate	6.5000%		
14	Federal Taxable Income (L12 - L13)	93.5000%		
15	Applicable Federal Income Tax Rate (Line 44)	34.0000%		
16	Effective Federal Income Tax Rate (L14 x L15)	31.7900%		
17	Combined Federal and State Income Tax Rate (L13 + L16)		38.2900%	
<u>Calculation of Effective Property Tax Factor</u>				
18	Unity	100.0000%	6.968%	
19	Combined Federal and State Income Tax Rate (L17)	38.2900%		
20	One Minus Combined Income Tax Rate (L18-L19)	61.7100%		
21	Property Tax Factor (GWB-18, L25)	0.8510%		
22	Effective Property Tax Factor (L20*L21)		0.5252%	
23	Combined Federal and State Income Tax and Property Tax Rate (L17+L22)			38.8152%
24	Required Operating Income (Schedule GWB-1, Line 5)	\$ 2,013,309		
25	Adjusted Test Year Operating Income (Loss) (Schedule GWB-10, Line 36)	\$ 1,386,800		
26	Required Increase in Operating Income (L24 - L25)		\$ 626,509	
27	Income Taxes on Recommended Revenue (Col. (C), L48)	\$ 874,456		
28	Income Taxes on Test Year Revenue (Col. (A), L48)	\$ 485,718		
29	Required Increase in Revenue to Provide for Income Taxes (L27 - L28)		\$ 388,738	
30	Required Revenue Increase (Schedule GWB-1, Line 8)	\$ 1,033,235		
31	Uncollectible Rate (Line 10)	0.8900%		
32	Uncollectible Expense on Recommended Revenue (L30 * L31)	\$ 9,196		
33	Adjusted Test Year Uncollectible Expense - N/A	\$ -		
34	Required Increase in Revenue to Provide for Uncollectible Exp.		\$ 9,196	
35	Property Tax with Recommended Revenue (GWB-18, Line 21)	\$ 241,004		
36	Property Tax on Test Year Revenue (GWB-18, Col A, L19)	\$ 232,211		
37	Increase in Property Tax Due to Increase in Revenue (L35-L36)		\$ 8,793	
38	Total Required Increase in Revenue (L26 + L29 + L34+ L37)		\$ 1,033,235	
<u>Calculation of Income Tax:</u>				
39	Revenue (Sch GWB-10, Col.(C) L4, GWB-1, Col. (D), L10)	\$ 9,014,985		\$ 10,048,220
40	Operating Expenses Excluding Income Taxes	\$ 7,142,467		\$ 7,160,456
41	Synchronized Interest (L53)	\$ 603,993		\$ 603,993
42	Arizona Taxable Income (L39 - L40 - L41)	\$ 1,268,525		\$ 2,283,772
43	Arizona State Income Tax Rate	6.5000%		6.5000%
44	Arizona Income Tax (L42 x L43)	\$ 82,454		\$ 148,445
45	Federal Taxable Income (L42 - L44)	\$ 1,186,071		\$ 2,135,326
46	Federal Tax	\$ 403,264		\$ 726,011
47	Total Federal Income Tax	\$ 403,264		\$ 726,011
48	Combined Federal and State Income Tax (L43 + L47)	\$ 485,718		\$ 874,456
50	Effective Tax Rate			
<u>Calculation of Interest Synchronization:</u>				
51	Rate Base (Schedule GWB-3, Col. (C), Line 18)			N/A
52	Weighted Average Cost of Debt			\$ 25,166,359
53	Synchronized Interest (L50 X L51)			2.4000%
				\$ 603,993

**RATE BASE - ORIGINAL COST**

LINE NO.		(A) COMPANY AS FILED	(B) STAFF ADJUSTMENTS	(C) STAFF AS ADJUSTED
1	Plant in Service	\$ 69,502,064	\$ (938,986)	\$ 68,563,078
2	Less: Accumulated Depreciation	25,734,123	413,339	26,147,462
3	Net Plant in Service	<u>\$ 43,767,941</u>	<u>\$ (1,352,326)</u>	<u>\$ 42,415,615</u>
	<u>LESS:</u>			
4	Contributions in Aid of Construction (CIAC)	\$ 14,991,871	\$ -	\$ 14,991,871
5	Less: Accumulated Amortization	2,529,950	-	2,529,950
6	Net CIAC	<u>12,461,921</u>	<u>-</u>	<u>12,461,921</u>
7	Advances in Aid of Construction (AIAC)	4,008,916	-	4,008,916
8	Customer Meter Deposits	1,950		1,950
9	Deferred Income Taxes	1,271,696		1,271,696
10	FHSD Settlement	449,580		449,580
	<u>ADD:</u>			
11	Working Capital Allowance	1,009,341	(142,739)	866,602
12	Deferred Debits	686,104	(607,898)	78,206
13	<b>Original Cost Rate Base</b>	<u>\$ 27,269,321</u>	<u>\$ (2,102,962)</u>	<u>\$ 25,166,359</u>

References:

Column (A), Company Schedule B-2  
Column (B): Schedule GWB-4  
Column (C): Column (A) + Column (B)

SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS

LINE NO.	ACCT. NO.	DESCRIPTION	(A) COMPANY AS FILED	(B) Reclassification ADJ #1 GWB-5	(C) Post Test Year Plant ADJ #2 GWB-6	(E) UPIS & ACC. DEPREC. ADJ #3 GWB-7	(F) ADFUC Deferral ADJ #4 GWB-8	(G) Working Capital ADJ #5 GWB-9	(I) STAFF ADJUSTED
<u>PLANT IN SERVICE:</u>									
1	303	Other Intangible Plant	1,282,734	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,282,734
2	303	Land and Land Rights	271,857						271,857
3	304	Structures and Improvements - Pumping	190,044						190,044
4	304	Structures and Improvements - Treatment	593,063						593,063
5	304	Structures and Improvements - T & D	169,971						169,971
6	304	Structures & Improvements - General	826,312		39,378	(594)			865,096
7	305	Collecting and Impounding Reservoirs	1,013,959			(11,800)			1,002,159
8	307	Wells	953,001						953,001
9	309	Supply Mains	2,201,526						2,201,526
10	311	Pumping Equipment & Other Pumping Plant	6,056,668		(130,000)	49,378			5,976,046
11	320.1	Water Treatment Equipment	6,960,463		(114,071)	6,946			6,853,337
12	330	Reservoirs and Tanks	6,235,113	(6,235,113)					-
13	330.1	Storage Tanks		6,235,113	(390,624)	2,667			5,847,156
14	331	Transmission and Distribution Mains	24,744,309		223,733	9,132			24,977,173
15	333	Services	11,300,767		(328,325)	16,750			10,989,193
16	334	Meters	3,216,068		(271,726)	3,556			2,947,898
17	335	Hydrants	2,029,913		523	11,047			2,041,483
18	339	Other Transmission & Distribution Plant	132,558		(22,319)	41,221			151,460
19	339	Other Transmission & Distribution Plant	143,521						143,521
20	340	Office Furniture and Equipment, Computers,	305,068						305,068
21	341	Transportation Equipment	503,910		389	(77,349)			426,950
22	343	Power Operated Equipment & Tool, Shop an	222,439		48,151				270,590
23	345	Power Operated Equipment	0						-
24	346	Communication Equipment	102,326		(3,828)				98,498
25	347	Other General Plant	41,221			(41,221)			0
26		Company's reconciling Adjustment	5,253						5,253
27		Total Plant in Service	69,502,064	(0)	(948,719)	9,733			68,563,078
28									
29		Accumulated Depreciation	25,734,123			413,339			26,147,462
30		Net Plant in Service	\$ 43,767,941	\$ (0)	\$ (948,719)	\$ (403,606)	\$ -	\$ -	\$ 42,415,615
31									
32		<u>LESS:</u>							
33		Contributions in Aid of Construction (CIAC)	\$ 14,991,871						\$ 14,991,871
34		Less: Accumulated Amortization	2,529,950						2,529,950
35		Net CIAC (L63 - L64)	12,461,921						12,461,921
36		Advances in Aid of Construction (AIAC)	4,008,916						4,008,916
37		Customer Meter Deposits	1,950						1,950
38		Deferred Income Taxes	1,271,696						1,271,696
39		FHSD Settlement	449,580						449,580
40		<u>ADD:</u>							
41		Working Capital Allowance	1,009,341					(142,739)	866,602
42		Deferred Debits	686,104				(607,898)		78,206
43		Original Cost Rate Base	\$ 27,269,321	\$ (0)	\$ (948,719)	\$ (403,606)	\$ (607,898)	\$ (142,739)	\$ 25,166,361

Chaparral City Water Company  
Docket No. W-02113A-13-0118  
Test Year Ended December 31, 2012

Schedule GWB-5

RATE BASE ADJUSTMENT #1 RECLASSIFICATION

LINE NO.	ACCT NO.	Description	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	330	Reservoirs and Tanks	6,235,113	(6,235,113)	-
	330.1	Storage Tanks	-	6,235,113	6,235,113

References:

Column [A] : Amount reflected in Acct. 330, Reservoirs and Tanks

Column [B] , Col [C] less Col [A]

Column [C] , Per testimony GWB

RATE BASE ADJUSTMENT #2 POST TEST YEAR PLANT

LINE NO.	ACCT NO. & DESCRIPTION OF PROJECT	[A] ORIGINAL PROJECT ESTIMATES	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	304500 Office & Ops Center	-	39,378	39,378
2	311000 Electrical Annual Program	130,000	-	(130,000)
3	307000 Well #10 Arsenic Treatment	793,374		(793,374)
4	320.1 Well #10 Arsenic Treatment	-	1,014,949	1,014,949
5	Subtotal (Net Inc.) to Acct. 320.1	793,374	1,014,949	221,575
5	320000 Shea WTP Filter Media	59,369	73,035	13,666
6	320000 Shea WTP Improvements	350,000	688	(349,312)
7	Total Adj to Acct 320.1	1,202,743	1,088,672	(114,071)
8	330000 Reservoir #2 Rehabilitation	595,860	692,236	96,376
9	330000 Lotus Reservoir 3	-	-	-
10	330000 Crestview Reservoir 7	-	-	-
11	330000 2013 Recurring Projects - Facilities	650,000	163,000	(487,000)
12	Total Adj to 330.1	1,245,860	855,236	(390,624)
13	331001 Distribution System	53,577	66,964	13,387
14	331001 Distribution Improvements	300,000	1,453	(298,547)
15	331001 Misc system improvements	-	212,350	212,350
16	331001 Main breaks	-	93,715	93,715
17	331001 Manholes replaced	-	-	-
18	331001 Valves new	-	4,633	4,633
19	331001 Valves replaced .	-	144,905	144,905
20	331001 Mains scheduled	-	53,290	53,290
21	Total Adj to Acct 331.1	353,577	577,310	223,733
22	333000 Services Replaced	410,000	81,675	(328,325)
23	334100 Meters Replaced	300,000	28,274	(271,726)
24	335000 Hydrants Replaced	10,000	10,523	523
25	339600 Comprehensive Planning Study (Chloramination)	132,558	110,239	(22,319)
26	341100 Vehicles	9,248	9,637	389
27	343000 Tools & Equipment	31,777	36,935	5,158
28	343000 Tools & Equipment	-	42,993	42,993
29	Total Adj to Acct. 343	31,777	79,928	48,151
30	346000 ESRI Project (GIS)	-	-	-
31	346200 IPT Deployment	59,000	44,932	(14,068)
32	346200 Scada & Firewall	-	10,240	10,240
	Total Adj to Acct. 346	59,000	55,172	(3,828)
33	347000 Security	-	-	-
34	Comprehensive Planning Study (Well 11 Restoration)	-	-	-
35	Comprehensive Planning Study	-	-	-
36	Reservoir #2 Rehabilitation	-	-	-
37	Reservoir #2 Rehabilitation	-	-	-
38	Developer Funded	-	-	-
39	Totals	3,884,763	2,936,044	(948,719)

References:

Column [A] : Amount per Company application and response to Staff DR

Column [B] , Col [C] less Col [A]

Column [C] : Amount per Company response to Staff DR and Testimony GWB

RATE BASE ADJUSTMENT #3 UPIS AND ACCUMULATED DEPRECIATION

Line No.	Sub. Acct.	Description Company Application	Company Application E-5 Plant Balance 12/31/2012	Company Subtotal	Staff	Adjustment	Staff Calculated Accum Depreciations	Fully Depreciated
1	303100	Other Intangible Plant	\$ -	\$ -	\$ -	\$ -		\$ -
2	303600	Land and Land Rights	1,554,591	1,554,591	1,554,591	-	-	
3	304200	Structures and Improvements - P	190,044					
4	304300	Structures and Improvements - Ti	593,063					
5	304400	Structures and Improvements - T	169,971					
6	304500	Structures & Improvements - Ger	826,312	1,779,390	1,778,796	(594)	780,768	
7	305000	Collecting and Impounding Reser	1,019,211	1,019,211	1,007,411	(11,800)	457,368	
8	307000	Wells	159,628	159,628	159,627	(1)	108,329	
9	309000	Supply Mains	2,201,526	2,201,526	2,201,526	-	938,965	
10	311000	Pumping Equipment & Other Pun	5,926,668	5,926,668	5,976,046	49,378	4,868,619	3,365,052
11	320100	Water Treatment Equipment	6,551,094	6,551,094	6,558,040	6,946	1,513,186	
12	330000	Reservoirs and Tanks	4,989,253	4,989,253	4,991,920	2,667	1,636,582	
13	331001	Transmission and Distribution Ma	24,390,732	24,390,732	24,399,864	9,132	9,619,484	
14	333000	Services	10,890,767	10,890,767	10,907,517	16,750	2,532,141	
15	334100	Meters	2,916,068	2,916,068	2,919,624	3,556	2,374,387	
16	335000	Hydrants	2,019,913	2,019,913	2,030,960	11,047	387,168	
18	339100	Other Transmission & Distribution	143,521	143,521	184,742	41,221	39,879	
19	340100	Office Furniture and Equipment, I	305,068	305,068	305,067	(1)	392,898	264,394
20	341100	Transportation Equipment	494,662	494,662	417,313	(77,349)	415,605	400,233
21	343000	Power Operated Equipment & To	190,662	190,662	190,661	(1)	48,794	
22	345000	Power Operated Equipment	-	-	-	-	-	
23	346200	Communication Equipment	43,326	43,326	43,327	1	33,290	
24	347000	Other General Plant	41,221	41,221	-	(41,221)	-	
26	Total		\$ 65,617,302	\$ 65,617,301	\$ 65,627,032	\$ 9,731	\$ 26,147,463	\$ 4,029,679

See Note

Note: Some \$1 adjustments waived, plus rounding, net adjustment of \$9,733 on GWB-4

Chaparral City Water Company  
Docket No. W-02113A-13-0118  
Test Year Ended December 31, 2012

Schedule GWB-8

**RATE BASE ADJUSTMENT #4 REVERSAL OF AFUDC AND DEFERRED DEPRECIATION DEFERRAL**

LINE NO.	ACCT NO.	Description	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1		Deferred Debits	607,898	(607,898)	-

References:

Column [A]: Amount reflected on Co Schedule B-2, as part of Deferred Debits

Column [B], Col [C] less Col [A]

Column [C], Per testimony GWB

RATE BASE ADJUSTMENT #5 CASH WORKING CAPITAL

Line No.	Description	Proforma Test Year Amount	Revenue Lag (Lead) Days	Expense Lag (Lead) Days	Net Lag (Lead) Days Col. C - Col. D	Lead/Lag Factor Col. E/365	Cash Working Capital Required Col. B * Col. F
	(A)	(B)	(C)	(D)	(E)	(F)	(G)
7	OPERATING EXPENSES						
8	Labor	\$ 1,024,112	34.93	13.09	21.84	0.05983271	\$ 61,275
9	Purchased Water	\$ 1,116,879	34.93	43.67	(8.74)	-0.0239481	(26,747)
10	Fuel & Power	\$ 585,139	34.93	27.86	7.07	0.01936695	11,332
11	Chemicals	\$ 115,182	34.93	(79.22)	114.15	0.31273681	36,022
12	Waste Disposal	\$ 7,113	34.93	41.90	(6.97)	-0.0190988	(136)
13	Intercompany Support Services	\$ 94,150	34.93	29.99	4.94	0.01353134	1,274
14	Corporate Allocation	\$ 410,813	34.93	30.00	4.93	0.01350394	5,548
15	Outside Services	\$ 508,106	34.93	88.00	(53.07)	-0.1454002	(73,879)
16	Group Insurance	\$ 178,067	34.93	12.00	22.93	0.06281901	11,186
17	Pensions	\$ 85,086	34.93	67.98	(33.05)	-0.0905509	(7,705)
18	Insurance Other Than Group	\$ 73,025	34.93	(26.14)	61.07	0.16731216	12,218
19	Customer Accounting	\$ 318,959	34.93	26.53	8.40	0.02301079	7,339
20	Rents	\$ 1,504	34.93		34.93	0.09569572	144
21	General Office Expense	\$ 164,179	34.93	39.69	(4.76)	-0.013044	(2,142)
22	Miscellaneous	\$ 158,553	34.93	(3.22)	38.15	0.10451764	16,572
23	Maintenance Expense	\$ 388,614	34.93	17.28	17.65	0.04835325	18,791
24	Intest Expense <sup>1</sup>	603,993	34.93	106.25	(71.32)	-0.1954002	(118,020)
25							
26	TAXES						
27	General Taxes-Property <sup>1</sup>	\$ 241,003	34.93	213.96	(179.0294)	(0.4905)	\$ (118,210)
28	General Taxes-Other	86,320	34.93	3.03	31.8989	0.0874	7,544
29	Income Tax <sup>1</sup>	874,456	34.93	37.00	(2.0711)	(0.0057)	(4,962)
30	TOTAL	<u>\$ 7,035,254</u>					<u>\$ (162,555)</u>

CASH WORKING CAPITAL REQUIREMENT

<sup>1</sup>At proposed rates.

	Per Co	Per Staff	Adjustment
36 Cash Working Capital Requirement	\$ (19,817)	\$ (162,555)	\$ (142,739)
37 Required Bank Balances	780,673	780,673	-
38 Prepayments	248,484	248,484	-
39 Total Working Capital Allowance	1,009,341	866,602	(142,739)



OPERATING INCOME STATEMENT - TEST YEAR AND STAFF RECOMMENDED

LINE NO.	DESCRIPTION	[A] COMPANY TEST YEAR AS FILED	[B] STAFF TEST YEAR ADJUSTMENTS	[C] STAFF TEST YEAR AS ADJUSTED	[D] STAFF RECOMMENDED CHANGES	[E] STAFF RECOMMENDED
	<b>Revenues</b>	\$ -	\$ -	\$ -	\$ -	\$ -
1	Water Revenues	8,915,656	-	8,915,656	1,033,236	9,948,892
2	Other Revenues	99,329	-	99,329	-	99,329
3		-	-	-	-	-
4	<b>Total Operating Revenues</b>	<u>\$ 9,014,985</u>	<u>\$ -</u>	<u>\$ 9,014,985</u>	<u>\$ 1,033,236</u>	<u>\$ 10,048,220</u>
	<b>Operating Expenses</b>					
5	Labor	\$ 1,024,112	\$ -	\$ 1,024,112	\$ -	\$ 1,024,112
6	Purchased Water	1,065,953	50,926	1,116,879	-	1,116,879
7	Fuel & Power	605,885	(20,746)	585,139	-	585,139
8	Chemicals	119,266	(4,084)	115,182	-	115,182
9	Waste Disposal	7,113	-	7,113	-	7,113
10	Intercompany Support Services	94,150	-	94,150	-	94,150
11	Corporate Allocation	500,330	(89,517)	410,813	-	410,813
12	Outside Services	508,106	-	508,106	-	508,106
13	Group Insurance	178,067	-	178,067	-	178,067
14	Pensions	85,086	-	85,086	-	85,086
15	Regulatory Expense	91,668	-	91,668	-	91,668
16	Insurance Other Than Group	73,025	-	73,025	-	73,025
17	Customer Accounting	318,959	-	318,959	9,196	328,154
18	Rents	1,504	-	1,504	-	1,504
19	General Office Expense	164,179	-	164,179	-	164,179
20	Miscellaneous	158,553	-	158,553	-	158,553
21	Maintenance Expense	388,614	-	388,614	-	388,614
22	Depreciation & Amortization	2,014,048	(511,261)	1,502,787	-	1,502,787
23	General Taxes-Property	251,038	(18,828)	232,210	8,793	241,003
24	General Taxes-Other	86,320	-	86,320	-	86,320
25	Income Taxes	389,412	96,306	485,718	388,738	874,456
26	<b>Total Operating Expenses</b>	<u>\$ 8,125,389</u>	<u>\$ (497,204)</u>	<u>\$ 7,628,186</u>	<u>\$ 406,726</u>	<u>\$ 8,034,912</u>
27	<b>Operating Income (Loss)</b>	<u>\$ 889,596</u>	<u>\$ 497,204</u>	<u>\$ 1,386,800</u>	<u>\$ 626,509</u>	<u>\$ 2,013,309</u>

References:

Column (A): Company Schedule C-1  
Column (B): Schedule GWB 11  
Column (C): Column (A) + Column (B)  
Column (D): Schedules GWB 2, Lines 29, 34 and 37  
Column (E): Column (C) + Column (D)

**SUMMARY OF OPERATING INCOME ADJUSTMENTS - TEST YEAR**

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] Excess Water Loss ADJ #1 GWB-12	[C] Inc. Comp. ADJ #2 GWB-13	[D] Purchased Water Exp ADJ #3 GWB-14	[E] Deprec. Exp ADJ #5 GWB-16	[F] PROPERTY TAXES ADJ #5 GWB-18	[G] Income Taxes ADJ #6 GWB-17	[H] STAFF ADJUSTED
	<b>Revenues</b>								
1	Water Revenues	\$ 8,915,656	-	-	-	-	-	-	8,915,656
2	Other Revenues	99,329	-	-	-	-	-	-	99,329
3	<b>Total Operating Revenues</b>	<b>\$ 9,014,985</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 9,014,985</b>
	<b>Operating Expenses</b>								
4	Labor	\$ 1,024,112							1,024,112
5	Purchased Water	1,065,953	(39,598)		90,524				1,116,879
6	Fuel & Power	605,885	(20,746)						585,139
7	Chemicals	119,266	(4,084)						115,182
8	Waste Disposal	7,113							7,113
9	Intercompany Support Services	94,150							94,150
10	Corporate Allocation	500,330		(89,517)					410,813
11	Outside Services	508,106							508,106
12	Group Insurance	178,067							178,067
13	Pensions	85,086							85,086
14	Regulatory Expense	91,668							91,668
15	Insurance Other Than Group	73,025							73,025
16	Customer Accounting	318,959							318,959
17	Rents	1,504							1,504
18	General Office Expense	164,179							164,179
19	Miscellaneous	158,553							158,553
20	Maintenance Expense	388,614							388,614
21	Depreciation & Amortization	2,014,048							1,502,787
22	General Taxes-Property	251,038				(511,261)	(18,828)		232,210
23	General Taxes-Other	86,320							86,320
24	Income Taxes	389,412						96,306	485,718
25	<b>Total Operating Expenses</b>	<b>\$ 8,125,389</b>	<b>\$ (64,428)</b>	<b>\$ (89,517)</b>	<b>\$ 90,524</b>	<b>\$ (511,261)</b>	<b>\$ (18,828)</b>	<b>\$ 96,306</b>	<b>\$ 7,628,186</b>
26	<b>Operating Income</b>	<b>\$ 889,596</b>	<b>\$ 64,428</b>	<b>\$ 89,517</b>	<b>\$ (90,524)</b>	<b>\$ 511,261</b>	<b>\$ 18,828</b>	<b>\$ (96,306)</b>	<b>\$ 1,386,800</b>

Chaparral City Water Company  
Docket No. W-02113A-13-0118  
Test Year Ended December 31, 2012

Schedule GWB-12

OPERATING INCOME ADJUSTMENT #1 - EXCESS WATER LOSS

LINE  
NO.

1	One plus allowable water loss	110.00%
2	One plus actual water loss	113.90%
3	Allowable portion	96.58%
4	Disallowable portion	3.42%
5	Power Expense	605,885
6	Disallowance	\$ 20,746
7	Chemical Expense	119,266
8	Disallowance	\$ 4,084
9	Purchased Water Expense	1,156,477
10	Disallowance	\$ 39,598

Line 1: Maximum acceptable level of water losses

Line 2: Actual level of water losses

Line 3: Line 2 / line 3

Line 4: 1 minus line 4

Lines 5, and 7: Per Schedule GWB-11, Col [A]

Line 9 : Per Schedule GWB-11, Col [A] plus Col [D]

Line 6: Line 5 times line 4

Line 8: Line 7 times line 4

Line 10: Line 9 times line 4

Chaparral City Water Company  
Docket No. W-02113A-13-0118  
Test Year Ended December 31, 2012

Schedule GWB-13

**OPERATING INCOME ADJUSTMENT #2 - INCENTIVE COMPENSATION**

LINE NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] STAFF ADJUSTMENTS	[C] STAFF RECOMMENDED*
1		\$ 89,517	\$ (89,517)	\$ -

References:

Column (A), Per Company Response to Staff data request

Column (B): Testimony GWB

Column (C): Column (A) + Column (B)

Chaparral City Water Company  
Docket No. W-02113A-13-0118  
Test Year Ended December 31, 2012

Schedule GWB-14

**OPERATING INCOME ADJUSTMENT #3 - PURCHASED WATER EXPENSE**

LINE NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] STAFF ADJUSTMENTS	[C] STAFF RECOMMENDED*
1		\$ 1,065,953	\$ 90,524	\$ 1,156,477

References:

Column (A), Company Workpapers

Column (B): Testimony GWB

Column (C): Column (A) + Column (B), Per Co Response  
to Staff DR 4.4

OPERATING INCOME ADJUSTMENT #4 - DEPRECIATION EXPENSE

LINE NO.	ACCT. NO.	DESCRIPTION	[A] PLANT BALANCE	[B] FULLY DEPRECIATED	[C] DEPRECIABLE AMOUNT	[D] DEPRECIATION RATE	[E] DEPRECIATION EXPENSE
1		<u>PLANT IN SERVICE:</u>					
2	303	Other Intangible Plant	\$ 1,282,734		\$ 1,282,734	0.00%	-
3	303	Land and Land Rights	271,857		271,857	0.00%	-
4	304	Structures and Improvements - Pumping	190,044		190,044	3.33%	6,328
5	304	Structures and Improvements - Treatment	593,063		593,063	3.33%	19,749
6	304	Structures and Improvements - T & D	169,971		169,971	3.33%	5,660
7	304	Structures & Improvements - General	865,096		865,096	3.33%	28,808
8	305	Collecting and Impounding Reservoirs	1,002,159		1,002,159	2.50%	25,054
9	307	Wells	953,001		953,001	3.33%	31,735
10	309	Supply Mains	2,201,526		2,201,526	2.00%	44,031
11	311	Pumping Equipment & Other Pumping Plant	5,976,046	(3,365,052)	2,610,994	12.50%	326,374
12	320.1	Water Treatment Equipment	6,853,337		6,853,337	3.33%	228,216
13	330	Reservoirs and Tanks	-		-	0.00%	-
14	330.1	Storage Tanks	5,847,156		5,847,156	2.22%	129,807
15	331	Transmission and Distribution Mains	24,977,173		24,977,173	2.00%	499,543
16	333	Services	10,989,193		10,989,193	3.33%	365,940
17	334	Meters	2,947,898		2,947,898	8.33%	245,560
18	335	Hydrants	2,041,483		2,041,483	2.00%	40,830
19	339	Other Transmission & Distribution Plant	151,460		151,460	6.67%	10,102
20	339	Other Transmission & Distribution Plant	143,521		143,521	6.67%	9,573
21	340	Office Furniture and Equipment, Computers, Software, Peripherals	305,068	(264,394)	40,674	6.67%	2,713
22	341	Transportation Equipment	428,950	(400,233)	28,717	20.00%	5,343
23	343	Power Operated Equipment & Tool, Shop and Garage Equipment	270,590		270,590	5.00%	13,530
24	345	Power Operated Equipment	-		-	5.00%	-
25	346	Communication Equipment	98,498		98,498	10.00%	9,850
26	347	Other General Plant	0		0	10.00%	0
27		Company's reconciling Adjustment	5,253		5,253		-
28		Total Utility Plant in Service	68,563,078	(4,029,679)	64,533,399		2,048,746
29		Less: Non Depreciable Plant					
30		Other Intangible Plant			\$ 1,282,734		
31		Net Depreciable Plant and Depreciation Amounts			\$ 63,250,665		\$ 2,048,746
32							
33		Amortization of CIAC			\$ 14,991,871	3.2391%	\$ 485,600
34		Staff Recommended Depreciation Expense					\$ 1,563,146
35		Deferred CAP Amortization					\$ 15,841
36		Amortization of Gains on FHSD Settlement					\$ (76,000)
37		Company Proposed Depreciation Expense					\$ 1,502,787
38		Staff Adjustment					\$ 2,014,048
							\$ (511,261)

<u>References:</u>	
Col [A]	Schedule GWB-4
Col [B]	Fully Depreciated Plant, per Testimony
Col [C]	Col [A] less Col [B]
Col [D]	Proposed Rates per Staff Engineering
Col [E]	Col [A] times Col [B]

Chaparral City Water Company  
Docket No. W-02113A-13-0118  
Test Year Ended December 31, 2012

Schedule GWB-17

**OPERATING INCOME ADJUSTMENT #5 - INCOME TAXES**

<u>LINE NO.</u>	<u>DESCRIPTION</u>	<u>[A] COMPANY PROPOSED</u>	<u>[B] STAFF ADJUSTMENTS</u>	<u>[C] STAFF RECOMMENDED</u>
1	Income Taxes	<u>\$ 389,412</u>	<u>\$ 96,306</u>	<u>\$ 485,718</u>

References:

Column (A), Company Schedule C-2

Column (B): Testimony GWB

Column (C): Column (A) + Column (B),  
see also Sch. GWB-2, line 48

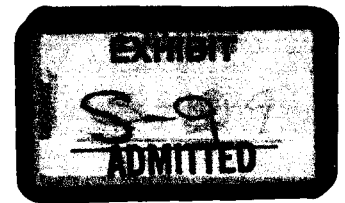
OPERATING INCOME ADJUSTMENT #6 - PROPERTY TAX EXPENSE GRCF COMPONENT

LINE NO.	DESCRIPTION	[A] STAFF AS ADJUSTED	[B] STAFF RECOMMENDED
1	Staff Adjusted Test Year Revenues - 2011	\$ 9,014,985	\$ 9,014,985
2	Weight Factor	2	2
3	Subtotal (Line 1 * Line 2)	18,029,971	18,029,971
4	Staff Adjusted Test Year Revenues - 2011	9,014,985	
5	Staff Recommended Revenue		10,048,221
6	Subtotal (Line 4 + Line 5)	27,044,956	28,078,192
7	Number of Years	3	3
8	Three Year Average (Line 5 / Line 6)	9,014,985	9,359,397
9	Department of Revenue Multiplier	2	2
10	Revenue Base Value (Line 7 * Line 8)	18,029,971	18,718,794
11	Plus: 10% of CWIP	161,294	161,294
12	Less: Net Book Value of Licensed Vehicles	-	-
13	Full Cash Value (Line 10 + Line 11 - Line 12)	18,191,265	18,880,088
14	Assessment Ratio	18.5%	18.5%
15	Assessment Value (Line 13 * Line 14)	3,365,384	3,492,816
16	Composite Property Tax Rate	6.9000%	6.9000%
17	Staff Test Year Adjusted Property Tax Expense (Line 15 * Line 16)	\$ 232,211	
18	Company Proposed Property Tax	\$ 251,038	
19	Staff Test Year Adjustment (Line 17 - Line 18)	\$ (18,828)	
20	Property Tax on Staff Recommended Revenue (Line 15 * Line 16)		\$ 241,004
21	Staff Test Year Adjusted Property Tax Expense (Line 17)		\$ 232,211
22	Increase in Property Tax Due to Increase in Revenue Requirement		\$ 8,793
23	Increase in Property Tax Due to Increase in Revenue Requirement (Line 22)		\$ 8,793
24	Increase in Revenue Requirement		\$ 1,033,236
25	Increase in Property Tax Per Dollar Increase in Revenue (Line 23 / Line 24)		0.85100%

REFERENCES:

Line 15: Composite Tax Rate, per Company  
Line 18: Company Schedule C-1, Line 36





**BEFORE THE ARIZONA CORPORATION COMMISSION**

BOB STUMP  
Chairman  
GARY PIERCE  
Commissioner  
BRENDA BURNS  
Commissioner  
BOB BURNS  
Commissioner  
SUSAN BITTER SMITH  
Commissioner

IN THE MATTER OF THE APPLICATION ) DOCKET NO. W-02113A-13-0118  
OF CHAPARRAL CITY WATER COMPANY )  
FOR A DETERMINATION OF THE )  
CURRENT FAIR VALUE OF ITS UTILITY )  
PLANT AND PROPERTY AND FOR )  
INCREASE IN ITS RATES AND CHARGES )  
BASED THEREON )

RATE DESIGN  
DIRECT TESTIMONY  
OF  
GERALD BECKER  
EXECUTIVE CONSULTANT  
UTILITIES DIVISION  
ARIZONA CORPORATION COMMISSION

DECEMBER 20, 2013

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MISCELLANEOUS SERVICE CHARGES .....	5

## **SCHEDULES**

Rate Design .....	GWB-1
Typical Residential Bill Analysis .....	GWB-2

**EXECUTIVE SUMMARY  
CHAPARRAL CITY WATER COMPANY  
DOCKET NO. W-02113A-13-0118**

Chaparral City Water Company ("CCWC" or "Company"), is a certificated Arizona public service corporation that provides water service in the Town of Fountain Hills in Maricopa County. The average number of customers per Company during the test year was approximately 13,600 customers in its 19 square mile service territory.

The typical 3/4-inch meter residential customer with a median usage of 4,892 gallons would experience a \$10.13 or a 34.89 percent increase in his monthly bill from \$29.03 to \$39.16 under the Company's proposed rates and a \$1.86 or a 6.39 percent increase in his monthly bill from \$29.03 to \$30.89 under Staff's recommended rates.

Staff recommends approval of its recommended rates and charges as shown on the attached schedules.

1   **INTRODUCTION**

2   **Q.    Please state your name, occupation, and business address.**

3    A.   My name is Gerald Becker. I am an Executive Consultant III employed by the Arizona  
4       Corporation Commission ("Commission") in the Utilities Division ("Staff"). My business  
5       address is 1200 West Washington Street, Phoenix, Arizona 85007.

6  
7   **Q.    Briefly describe your responsibilities as an Executive Consultant III.**

8    A.   I am responsible for the examination and verification of financial and statistical  
9       information included in utility rate applications. In addition, I develop revenue  
10      requirements, and prepare written reports, testimonies, and schedules that include Staff  
11      recommendations to the Commission. I am also responsible for testifying at formal  
12      hearings on these matters.

13  
14   **Q.    Please describe your educational background and professional experience.**

15   A.   I received a Masters of Business Administration with an emphasis in Accounting from  
16       Pace University. I am a Certified Public Accountant and a Certified Internal Auditor. I  
17       am a member of the Arizona State Society of Certified Public Accountants.

18  
19       I have participated in multiple rate, financing and other regulatory proceedings. I attended  
20       the National Association of Regulatory Utility Commissioners ("NARUC") Utilities Rate  
21       School.

22  
23       I began employment with the Commission as a utilities regulatory analyst in April 2006.  
24       Prior to joining the Commission, I worked as an Auditor at the Department of Economic  
25       Security and Department of Revenue in the Taxpayer Assistance Section. Prior to those

1 jobs, I worked for 15 years as an Auditor, Analyst, Financial Analyst, and Budget  
2 Manager at United Illuminating, an investor-owned electric company in New Haven, CT.  
3

4 **Q. What is the scope of your testimony in this case?**

5 A. I am presenting Staff's analysis and recommendations regarding Chaparral City Water  
6 Company's ("CCWC" or "Company") applications for permanent increases in its rates  
7 and charges.  
8

9 **Q. What is the basis of your current testimony in this case?**

10 A. Based on the adjustments and revenue requirements recommended by Staff, I am  
11 presenting Staff's recommended rate design.  
12

13 **BACKGROUND**

14 **Q. Please review the background of these applications.**

15 A. CCWC is a certificated Arizona public service corporation that provides water service to  
16 customers in the Town of Fountain Hills in Maricopa County. CCWC is a wholly owned  
17 subsidiary of EPCOR Water (USA) Inc. ("EWUS").  
18

19 The Company's current rates were authorized in Decision No. 72258, dated April 7,  
20 2011<sup>1</sup>. That Decision authorized a \$1,883,020 revenue increase that provided a 7.52  
21 percent rate of return on a \$27,506,414 fair value rate base, which was the average of the  
22 original cost rate base and the replacement cost new rate base amount.  
23

---

<sup>1</sup> See Decision No. 72258, Exhibit A, Scenario 3 in column (F) which superseded the "Restated Decision (No. 71308)" as shown in Decision No. 72258, Exhibit A, Column [C].

**RATE DESIGN**

**Q. Did Staff prepare schedules showing the present, Company-proposed, and Staff-recommended rates and charges?**

A. Yes. Staff Schedule GWB-1 shows the present monthly minimum charges and commodity rates, the Company's proposed monthly minimum charges and commodity rates and Staff's recommended monthly minimum charges and commodity rates. The schedules also show the present, proposed and recommended service charges. A summary of the present, Company-proposed and Staff-recommended rates is presented in the following section.

**Q. Would you please summarize the present rate design for CCWC?**

A. The present monthly minimum charges by meter size are as follows: 3/4-inch \$16.50; 1-inch \$27.50, 1 1/2-inch \$55.00, 2-inch \$88.00, 3-inch \$176.00, 4-inch \$275.00, 6-inch \$550.00, 8-inch \$880.00, 10-inch \$1,265.00, and 12-inch \$2,365.00. No gallons are included in the monthly minimum charge. The residential water commodity rate for the 3/4-inch customer is \$2.31 per thousand gallons for zero to 3,000 gallons, \$2.96 per thousand gallons for 3,001 to 9,000 gallons, and \$3.61 per thousand gallons for any consumption over 9,000 gallons. The larger residential, commercial, irrigation, and hydrant commodity break-over points vary by meter size, but are \$2.96 per thousand gallons for the first tier and \$3.61 per thousand gallons for any consumption over the first tier. The present rate design also has monthly minimum and commodity charges for irrigation and hydrant customers, and a commodity only charge for standpipe water service. The monthly charge for fire sprinkler service is \$10.00 for all meter sizes plus \$2.96 per thousand gallons.

1     **Q.     Would you please summarize the Company's proposed rate design?**

2     A.     The Company's proposed monthly minimum charges by meter size are as follows: 3/4-  
3     inch \$22.30, 1-inch \$37.19, 1 1/2-inch \$74.38, 2-inch \$119.00, 3-inch \$238.00, 4-inch  
4     \$371.88, 6-inch \$743.77, 8-inch \$1,190.02, 10-inch \$1,710.66, and 12-inch \$3,198.19.  
5     Customers who qualify as low income with 3/4-inch and 1-inch meters would qualify for a  
6     discount of \$7.50 per month from the monthly minimum. Zero gallons are included in the  
7     monthly minimum charge for all customers. The Company proposes a 3-tier inverted  
8     residential commodity rate for only the 3/4-inch customers of \$3.1061 per thousand  
9     gallons for zero to 3,000 gallons, \$3.9850 per thousand gallons for 3,001 to 9,000 gallons,  
10    and \$4.8640 per thousand gallons for any consumption over 9,000 gallons. The other  
11    proposed residential commodity rate tiers vary by meter size, but are \$3.9850 per thousand  
12    gallons for the first tier and \$4.8640 per thousand gallons for any consumption over the  
13    first tier. The Company is proposing an increase in its meter and commodity charges for  
14    commercial, irrigation and hydrant customers. The Company is also proposing increased  
15    monthly and commodity charges for private fire service which does not vary by meter  
16    size.

17  
18    **Q.     Would you please summarize Staff's recommended rate design?**

19    A.     Staff's recommended rates and charges are presented on Schedule GWB-1. Staff's  
20    recommended monthly minimum charges by meter size are as follows: 3/4-inch \$18.50, 1-  
21    inch \$30.85, 1 1/2-inch \$61.70, 2-inch \$98.71, 3-inch \$197.42, 4-inch \$308.47, 6-inch  
22    \$616.96, 8-inch \$987.12, 10-inch \$1,418.99, and 12-inch \$2,652.90. Customers who  
23    qualify as low income with 3/4-inch and 1-inch meters would qualify for a discount of  
24    \$7.50 per month from the monthly minimum. Zero gallons are included in the monthly  
25    minimum charge. For the 3/4-inch residential customers, Staff recommends a 3-tier  
26    inverted rate design with commodity charges of \$2.00 per thousand gallons for zero to

1 3,000 gallons, \$3.375 per thousand gallons for 3,001 to 9,000 gallons, and \$4.14 per  
2 thousand gallons for any consumption over 9,000 gallons. Staff's recommended larger  
3 residential, commercial, irrigation, and hydrant commodity rates have two tiers and vary  
4 by meter size, set at \$3.375 per thousand gallons for the first tier and \$4.14 per thousand  
5 gallons for any consumption over the first tier. Staff recommends increases in meter and  
6 commodity charge for commercial, irrigation and hydrant customers. Staff recommends  
7 increasing the monthly charge for fire sprinkler service to the greater of \$10.00 or 2  
8 percent of the monthly minimum charge for that meter size with no specified commodity  
9 charge.

10  
11 **Q. What is the rate impact on a typical 3/4-inch meter residential customer?**

12 **A.** The typical 3/4-inch meter residential customer with a median usage of 4,892 gallons  
13 would experience a \$10.13 or a 34.89 percent increase in his monthly bill from \$29.03 to  
14 \$39.16 under the Company's proposed rates and a \$1.86 or a 6.39 percent increase in his  
15 monthly bill from \$29.03 to \$30.89 under Staff's recommended rates. A typical bill  
16 analysis is provided on Schedule GWB-2.

17  
18 **MISCELLANEOUS SERVICE CHARGES**

19 **Q. Does Staff have any comments related to service charges?**

20 **A.** Yes. Staff agrees with the Company's proposed Service Charges, with the following  
21 exceptions:

22  
23 Staff recommends the addition of a Service Charge (after hours) tariff in the amount of  
24 \$35.00 and that this charge be in addition to the charge for any utility service provided  
25 after hours at the customer's request for the customer's convenience. Such a charge  
26 compensates the utility for additional expenses incurred from providing after-hours



1 service. Staff does not recommend approval of the proposed \$90.00 Reconnection of  
2 Service (Delinquent/After Hours) tariff. Staff also recommends removal of the tariff for  
3 Service Call – After Hours (per A.A.C. R14-2-403.D).

4  
5 Staff agrees with an Establishment of Service charge and a Reconnection of Service  
6 (Delinquent) but recommends an Establishment of Service charge of \$30.00 and a  
7 Reconnection of Service (Delinquent) of \$35.00 and that this charge be in addition to the  
8 charge for any utility service provided after hours at the customer's request. Staff also  
9 recommends a meter test (if correct) charge of \$35.00.

10  
11 **Q. What does Staff recommend?**

12 **A.** Staff recommends the approval of its Services Charges as shown on Schedule GWB-1.

13  
14 **Q. Does this conclude your direct testimony?**

15 **A.** Yes, it does.

Monthly Usage Charge	Present	Company Proposed Rates	Staff Recommended Rates
<b>Meter Size (All Classes):</b>			
3/4 Inch	16.50	22.30	18.50
3/4 Inch Low Income	-	14.80	11.00
1 Inch	27.50	37.19	30.85
1 Inch (Low Income)	-	29.69	23.35
1 1/2 Inch	55.00	74.38	61.70
2 Inch	88.00	119.00	98.71
3 Inch	176.00	238.00	197.42
4 Inch	275.00	371.88	308.47
6 Inch	550.00	743.77	616.96
8 Inch	880.00	1,190.02	987.12
10 Inch	1,265.00	1,710.66	1,418.99
12 Inch	2,365.00	3,198.19	2,652.90
<b>Commodity Charge - Per 1,000 Gallons All Classes</b>			
<b>3/4" Meter (Residential, Commercial and Industrial)</b>			
First 3,000 gallons	\$ 2.3100	\$ 3.1061	\$ 2.0000
3,001 to 9,000 gallons	2.9600	3.9850	3.375
Over 9,000 gallons	3.6100	4.8640	4.140
<b>1" Meter (Residential, Commercial and Industrial)</b>			
First 24,000 gallons	2.9600	3.9850	3.375
Over 24,000 gallons	3.6100	4.8640	4.140
<b>1 1/2" Meter (Residential, Commercial and Industrial)</b>			
First 60,000 gallons	2.9600	3.9850	3.375
Over 60,000 gallons	3.6100	4.8640	4.140
<b>2" Meter (Residential, Commercial and Industrial)</b>			
First 100,000 gallons	2.9600	3.9850	3.375
Over 100,000 gallons	3.6100	4.8640	4.140
<b>3" Meter (Residential, Commercial and Industrial)</b>			
First 225,000 gallons	2.9600	3.9850	3.375
Over 225,000 gallons	3.6100	4.8640	4.140
<b>4" Meter (Residential, Commercial and Industrial)</b>			
First 350,000 gallons	2.9600	3.9850	3.375
Over 350,000 gallons	3.6100	4.8640	4.140
<b>6" Meter (Residential, Commercial and Industrial)</b>			
First 725,000 gallons	2.9600	3.9850	3.375
Over 725,000 gallons	3.6100	4.8640	4.140
<b>8" Meter (Residential, Commercial and Industrial)</b>			
First 1,125,000 gallons	2.9600	3.9850	3.375
Over 1,125,000 gallons	3.6100	4.8640	4.140
<b>10" Meter (Residential, Commercial and Industrial)</b>			
First 1,500,000 gallons	2.9600	3.9850	3.375
Over 1,500,000 gallons	3.6100	4.8640	4.140
<b>12" Meter (Residential, Commercial and Industrial)</b>			
First 2,250,000 gallons	2.9600	3.9850	3.375
Over 2,250,000 gallons	3.6100	4.8640	4.140

	Present	Company Proposed Rates	Staff Recommended Rates
<b>Fire Lines:</b>			
Up to 8"	\$ 10.00	\$ 13.62	Per Rule*
10"	10.00	13.62	Per Rule*
12"	10.00	13.62	Per Rule*
*2% of monthly minimum for a comparable size meter connection, but no less than \$10.00 per month. The service charge for fire sprinklers is only applicable for service lines separate and distinct for the primary water service line.			
<b>Other Service Charges:</b>			
Establishment	\$ 25.00	\$ 60.00	\$ 30.00
Establishment (After Hours)	\$ 35.00	\$ 90.00	NT
Reconnection (Delinquent)	\$ 35.00	\$ 60.00	\$ 35.00
Reconnection (Delinquent) - After Hours	\$ 50.00	\$ 90.00	N/T
Meter Test (If Correct)	\$ 35.00	\$ 30.00	\$ 35.00
Deposit	*	*	*
Deposit Interest	**	**	**
Reestablishment (within 12 months)	***	***	***
NSF Check	\$ 25.00	\$ 25.00	\$ 25.00
Late Payment Penalty	1.5% per month	1.5% per month	1.5% per month
Deferred Payment	1.5% per month	1.5% per month	1.5% per month
Moving Meter at Customer Request	At Cost	At Cost	At Cost
Meter Re-read (if correct)	\$ 25.00	\$ 10.00	\$ 10.00
Service Calls -After Hours	see above	see above	N/T
After Hours Service Charge (a)	-	-	\$ 35.00
* Per Commission Rule A.A.C. R14-2-403(B)			
** Per Commission Rule A.A.C. R14-2-403(B)			
*** Per Commission Rule A.A.C. R14-2-403(D) - Months off the system times the monthly minimum.			
In addition to the collection of regular rates, the utility will collect from its customers a proportionate share of any privilege, sales, use, and franchise tax. Per commission rule 14-2-409D(5).			
(a) In addition to the charge for any utility service provided after hours			

**Service and Meter Installation Charges**

	Present Service Line	Present Meter	Total Present Charge	Proposed Service Line	Proposed	Total Proposed	Recommen	Recommen	Total Recommend
5/8"	\$ 385.00	\$ 135.00	\$ 520.00	\$ 385.00	\$135.00	\$ 520.00	\$ 385.00	\$ 135.00	\$ 520.00
3/4"	\$ 385.00	\$ 215.00	\$ 600.00	\$ 385.00	\$195.00	\$ 580.00	\$ 385.00	\$ 195.00	\$ 580.00
1"	\$ 435.00	\$ 255.00	\$ 690.00	\$ 435.00	\$234.00	\$ 669.00	\$ 435.00	\$ 234.00	\$ 669.00
1-1/2"	\$ 470.00	\$ 465.00	\$ 935.00	\$ 470.00	\$367.00	\$ 837.00	\$ 470.00	\$ 367.00	\$ 837.00
2" Turbine	\$ 630.00	\$ 965.00	\$ 1,595.00	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost
2" Comp	\$ 630.00	\$ 1,690.00	\$ 2,320.00	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost
3" Turbine	\$ 805.00	\$ 1,470.00	\$ 2,275.00	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost
3" Comp	\$ 845.00	\$ 2,265.00	\$ 3,110.00	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost
4" Turbine	\$ 1,170.00	\$ 2,350.00	\$ 3,520.00	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost
4" Comp	\$ 1,230.00	\$ 3,245.00	\$ 4,475.00	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost
6" Turbine	\$ 1,730.00	\$ 4,545.00	\$ 6,275.00	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost
6" Comp	\$ 1,770.00	\$ 6,280.00	\$ 8,050.00	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost
8" or larger	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost

Fire Sprinkler	Present	Proposed	Recommended
2" Meter and Valve	At Cost	At Cost	At Cost
4" Meter and Valve	At Cost	At Cost	At Cost
6" Meter and Valve	At Cost	At Cost	At Cost
8" Meter and Valve	At Cost	At Cost	At Cost

Typical Bill Analysis  
General Service 3/4-Inch Meter

Company Proposed	Gallons	Present Rates	Proposed Rates	Dollar Increase	Percent Increase
Average Usage	7,870	\$ 37.85	\$ 51.03	\$ 13.18	34.83%
Median Usage	4,892	29.03	39.16	\$ 10.13	34.89%

Staff Recommended

Average Usage	7,870	\$ 37.85	\$ 40.94	\$ 3.09	8.17%
Median Usage	4,892	29.03	30.89	\$ 1.86	6.39%

Present & Proposed Rates (Without Taxes)  
General Service 3/4-Inch Meter

Gallons Consumption	Present Rates	Company Proposed Rates	% Increase	Staff Recommended Rates	% Increase
	\$ 16.50	\$ 22.30	35.15%	\$ 18.50	12.12%
1,000	18.81	25.41	35.07%	20.50	8.98%
2,000	21.12	28.51	35.00%	22.50	6.53%
3,000	23.43	31.62	34.95%	24.50	4.57%
4,000	26.39	35.60	34.91%	27.88	5.63%
5,000	29.35	39.59	34.88%	31.25	6.47%
6,000	32.31	43.57	34.86%	34.63	7.16%
7,000	35.27	47.56	34.84%	38.00	7.74%
8,000	38.23	51.54	34.82%	41.38	8.23%
9,000	41.19	55.53	34.81%	44.75	8.64%
10,000	44.80	60.39	34.80%	48.89	9.13%
11,000	48.41	65.26	34.80%	53.03	9.54%
12,000	52.02	70.12	34.79%	57.17	9.90%
13,000	55.63	74.98	34.79%	61.31	10.21%
14,000	59.24	79.85	34.79%	65.45	10.48%
15,000	62.85	84.71	34.78%	69.59	10.72%
16,000	66.46	89.58	34.78%	73.73	10.94%
17,000	70.07	94.44	34.78%	77.87	11.13%
18,000	73.68	99.30	34.78%	82.01	11.31%
19,000	77.29	104.17	34.78%	86.15	11.46%
20,000	80.90	109.03	34.77%	90.29	11.61%
25,000	98.95	133.35	34.77%	110.99	12.17%
30,000	117.00	157.67	34.76%	131.69	12.56%
35,000	135.05	181.99	34.76%	152.39	12.84%
40,000	153.10	206.31	34.76%	173.09	13.06%
45,000	171.15	230.63	34.75%	193.79	13.23%
50,000	189.20	254.95	34.75%	214.49	13.37%
75,000	279.45	376.55	34.75%	317.99	13.79%
100,000	369.70	498.15	34.75%	421.49	14.01%

BEFORE THE ARIZONA CORPORATION COMMISSION



BOB STUMP  
Chairman  
GARY PIERCE  
Commissioner  
BRENDA BURNS  
Commissioner  
BOB BURNS  
Commissioner  
SUSAN BITTER SMITH  
Commissioner

IN THE MATTER OF THE APPLICATION ) DOCKET NO. W-02113A-13-0118  
OF CHAPARRAL CITY WATER COMPANY )  
FOR A DETERMINATION OF THE )  
CURRENT FAIR VALUE OF ITS UTILITY )  
PLANT AND PROPERTY AND FOR )  
INCREASE IN ITS RATES AND CHARGES )  
BASED THEREON )  
\_\_\_\_\_ )

SURREBUTTAL

TESTIMONY

OF

GERALD BECKER

EXECUTIVE CONSULTANT

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

FEBRUARY 7, 2014

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**EXECUTIVE SUMMARY  
CHAPARRAL CITY WATER COMPANY  
DOCKET NO. W-02113A-13-0118**

Chaparral City Water Company ("CCWC" or "Company") states that it experienced an \$889,596 test year operating income resulting in a 3.26 percent rate of return. CCWC proposes a revenue increase of \$3,141,028 or 34.84 percent over the Company proposed test year revenues of \$9,014,985 to \$12,156,013. The Company's proposed revenue increase would produce an operating income of \$2,783,254 for a 10.21 percent rate of return on an original cost rate base ("OCRB") of \$27,269,321. The Company proposes to use OCRB as its fair value rate base.

Staff recommends a revenue increase of \$1,318,719 or 14.63 percent over the test year revenues of \$9,014,985 to \$10,333,705. The Staff recommended revenue increase would produce an operating income of \$2,139,065 for a 7.90 percent rate of return on a Staff adjusted OCRB of \$27,076,778.

I address the specific issues listed below that were discussed in the rebuttal testimony of the Company witness. I also sponsor the schedules attached to my surrebuttal testimony.

1. Post Test Year Plant – Staff agrees with most of the items of post-test year plant as reflected in the Company's rebuttal position.
2. Accumulated Depreciation and Fully Depreciated Plant – Staff has recalculated its Accumulated Depreciation Reserve balance and has changed its treatment of some plant investments previously treated as being fully depreciated.
3. Working Capital – Staff agrees with the Company's position that interest payments are subject to a lag of 91.25 days instead of the 106.25 days and Staff has made a minor correction to the Customer Accounting Expense balance captured in Staff's Cash Working Capital Allowance calculations. Staff has adjusted its cash working capital calculation accordingly.
4. Incentive Compensation – Staff has not adjusted its initial recommended disallowance, as the Company has yet to support the balance. Further, Staff has disallowed certain Contributions, Dues, Memberships payments allocated from the parent level.
5. Depreciation and Amortization Expense – Staff has recalculated Depreciation Expense to reflect the removal of some plant that was previously treated as fully depreciated and made minor corrections to the amortization of Contributions in Aid of Construction.
6. Rate Design – Staff has not fundamentally changed its rate design.

1 **INTRODUCTION**

2 **Q. Please state your name, occupation, and business address.**

3 A. My name is Gerald Becker. I am an Executive Consultant III employed by the Arizona  
4 Corporation Commission ("Commission") in the Utilities Division ("Staff"). My business  
5 address is 1200 West Washington Street, Phoenix, Arizona 85007.

6  
7 **Q. Are you the same Gerald Becker who previously submitted direct testimony in this**  
8 **case?**

9 A. Yes, I am.  
10

11 **PURPOSE OF SURREBUTTAL TESTIMONY**

12 **Q. What is the purpose of your surrebuttal testimony in this proceeding?**

13 A. The purpose of my surrebuttal testimony in this proceeding is to respond, on behalf of  
14 Staff, to the rebuttal testimony of Ms. Sheryl Hubbard, who represents Chaparral City  
15 Water Company ("CCWC" or "Company").  
16

17 **Q. Do you attempt to address every issue raised by the Company in its rebuttal**  
18 **testimony?**

19 A. No. I limit my discussion to certain issues as outlined below. My silence on any  
20 particular issue raised in the Company's rebuttal testimony does not indicate that Staff  
21 agrees with the Company's stated rebuttal position on the issue. I rely on my direct  
22 testimony unless modified by this surrebuttal testimony.  
23



**SUMMARY OF RECOMMENDED REVENUES**

**Q. Please summarize Staff's recommended revenue.**

**A.** Staff recommends a revenue increase of \$1,318,719 or 14.63 percent increase over test year revenue of \$9,014,985 to \$10,333,705. The total annual revenue of \$10,333,705 produces an operating income of \$2,139,065 for a 7.90 percent rate of return on an original cost rate base of \$27,076,778. (In Staff's direct testimony Staff recommended a revenue increase of \$1,033,235 or 11.46 percent over the test year revenues of \$9,014,985 to \$10,048,220 for an 8.00 percent rate of return on a Staff adjusted OCRB of \$25,166,359.)

**Q. Has the weighted average cost of capital ("WACC") used to develop the revenue requirement in Staff's direct testimony changed from the WACC in Staff's surrebuttal testimony?**

**A.** Yes. Staff's recommended WACC is reduced from the 8.0 percent reflected in my direct testimony filed on December 18, 2013, to 7.9 percent in this filing. The WACC change is supported by Staff witness Mr. Cassidy.

**RATE BASE**

**Q. Please summarize Staff's adjustments to the Company's rate base shown on Surrebuttal Schedule GWB-3.**

**A.** Staff recommends a reduction of \$192,543 to rate base from \$27,269,321 proposed by the Company in its application to \$27,076,778.

*Rate Base Adjustment No. 2 – Post-Test Year Plant*

**Q. Did Staff review the Company's rebuttal testimony regarding the Post-Test Year Plant?**

**A. Yes.**

**Q. Does Staff now agree with the Company?**

**A. Yes, but with one exception, Staff now agrees with the Company's rebuttal position which increases post-test year plant from \$3,884,763 in its original Application to \$4,579,953. As discussed in its direct testimony, Staff continues to recommend disallowance of one-half of the cost of a comprehensive planning study, or \$109,716 to reflect that part of the study related to certain items of plant such as Well No. 11 that are no longer in service.**

**Q. What is Staff's recommendation for post-test year plant?**

**A. Staff recommends post-test year plant in the amount of \$4,470,237 (\$4,579,953 less \$109,716), as shown in Surrebuttal Schedule GWB-6. This results in an increase of \$585,474 to plant as shown in Surrebuttal Schedule GWB-4.**

*Rate Base Adjustment No. 3 – Recalculation of Utility Plant in Service ("UPIS") and Accumulated Depreciation*

**Q. Did Staff review the Company's rebuttal testimony concerning UPIS and Accumulated Depreciation?**

**A. Yes.**

1 **Q. Does Staff agree with the Company's rebuttal position?**

2 A. Yes. Staff agrees with the Company's position that the beginning balance used by Staff  
3 did not remove \$487,750 of accumulated depreciation related to general office plant  
4 allocated from CCWC's previous owner.

5  
6 Staff also agrees to record one half year of accumulated depreciation on Staff's  
7 recommend post-test year plant, or \$65,666 in Surrebuttal Schedules GWB-4 and GWB-7.

8  
9 **Q. What is Staff's current recommendation?**

10 A. Staff recommends Accumulated Depreciation balance of \$25,799,789 as shown in  
11 Surrebuttal Schedules GWB-4 and GWB-7.

12  
13 *Rate Base Adjustment No. 5 – Working Capital*

14 **Q. Did Staff review the Company's rebuttal testimony concerning the adjustment to**  
15 **working capital?**

16 A. Yes.

17  
18 **Q. Does Staff agree?**

19 A. Yes. Staff adopts the Company's rebuttal position to use 91.25 lag days for interest  
20 expense. Staff also updates the balance in its customer accounting expense to reflect  
21 additional bad debt expense that is expected to occur with increased revenues.

22  
23 **Q. What is Staff's recommendation for the overall adjustment to working capital?**

24 A. The above changes are reflected on Surrebuttal Schedule GWB-9 which provides the  
25 calculations of Staff's recommended cash working capital. Staff recommends a reduction

1 to working capital of \$114,187 from \$1,009,341 to \$895,154 as shown on Surrebuttal  
2 Schedules GWB-4 and GWB-9.

3  
4 **OPERATING INCOME**

5 *Operating Income Adjustment No. 2 – Incentive Compensation and Contributions and Dues*

6 **Q. Did Staff review the Company's rebuttal testimony concerning the adjustment to**  
7 **incentive compensation included as part of the parent's corporate allocation?**

8 **A.** Yes.

9  
10 **Q. Does Staff agree?**

11 **A.** No. Staff continues to recommend disallowance of \$89,157 of incentive compensation  
12 paid by the Company's parent. In its rebuttal testimony, CCWC states that a 10 percent  
13 adjustment is appropriate because only 10 percent of the incentive compensation is based  
14 on financial performance of the Company while the remaining 90 percent is based on  
15 operational goals such as health and safety, operational efficiency and customer service.

16  
17 Staff disagrees with the Company's rebuttal position for two reasons. First, Staff has  
18 requested, but the Company has yet to support, the calculations used to award the \$89,157  
19 of incentive compensation which was related to the attainment of certain operational and  
20 financial goals. Absent a review of the underlying calculations, it would be improper to  
21 simply assume that the 10 percent provision in a plan equates to 10 percent of the actual  
22 payout. While the attainment of certain financial performance goals might represent 10  
23 percent of the *planned* payout of incentive compensation, the plan does not necessarily  
24 result in 10 percent of the actual amounts paid being for the attainment of financial goals.  
25 For example, if total possible or planned incentive compensation was authorized at \$100  
26 of which \$10 related to financial performance and \$90 related to operational goal, but

1 actual performances result in a total lower payment such as \$50 or even just the \$10, then  
2 the amounts attributable to respective particular goals are unclear. Since the information  
3 provided by the Company is limited to the amount paid and not its derivation, Staff is  
4 unable to calculate the part attributable to the financial performance versus operational  
5 goals. Second, Staff recommends that the attainment of operational goals results in  
6 benefits to both the ratepayers and the Company.

7  
8 Staff recommends disallowance of the entire amounts of incentive compensation  
9 attributable the Company's financial performance, and Staff would further recommend  
10 sharing of the incentive compensation based on the attainment of operational goals. Staff  
11 continues to recommend disallowance of the \$89,517 of incentive compensation, pending  
12 review of the Company's support for the payments.

13  
14 **Q. Does Staff have additional recommendations regarding the Company's Corporate**  
15 **Expense Allocation?**

16 **A.** In response to Staff data request GB 3.17, the Company indicated that it had included  
17 \$17,721 for expenses not necessary for the provision of service. These allocated expenses  
18 included but are not limited to, memberships, sponsorships, awards and gifts. Adding the  
19 \$17,721 to the \$89,517 eliminated for incentive compensation equals the \$107,238 Staff  
20 recommends be removed from Corporate Allocation expense.

21  
22 **Q. What is Staff's recommendation for the overall adjustment to Corporate**  
23 **Allocations?**

24 **A.** Staff recommends a total reduction of \$107,238 from \$500,330 to \$393,092, as shown on  
25 Surrebuttal Schedules GWB-11 and GWB-13.  
26

*Operating Income Adjustment No. 3 – Depreciation and Amortization Expense*

**Q. Did Staff review the Company's rebuttal testimony concerning the adjustment for Depreciation and Amortization Expense?**

**A. Yes.**

**Q. Does Staff agree?**

**A. Partially.** Staff agrees that based on its calculation of Accumulated Depreciation, Account 340 Office Furniture and Equipment does not include any plant that would be considered to be fully depreciated based on an analysis using a vintage year approach. Staff no longer includes a fully depreciated amount for this account. However, Staff continues to disagree with the Company and treats parts of other plant accounts as fully depreciated, as shown on lines 11 and 22 in Surrebuttal Schedule GWB-16.

Staff also corrects its calculation of amortization expense to exclude both accounts with a zero depreciation rate, as shown on line 30 in Surrebuttal Schedule GWB-16.

Since Staff is recognizing additional post-test year plant as discussed above, Staff updates its calculation for those changes.

**Q. Does Staff agree with the Company's position not to recognize fully depreciated plant and remove those items from its calculation of depreciation expense?**

**A. No.** The Company's argument is that it disagrees because to the best of its knowledge, Staff has not taken issue with the group method approach. Staff did take this approach in New River Water Company, Docket No. W-01737A-12-0478. The Company also cites to "Accounting for Public Utilities" and quotes:

1           “The group concept has been an integral part of utility depreciation  
2           accounting practice for many years. . . . Under the group concept, no  
3           attempt is made to keep track of the depreciation reserve applicable to  
4           *individual items* [emphasis added] of property. This does not imply any  
5           loss of control, but rather is a practical approach for utilities because they  
6           possess millions of items of property.

7  
8           Under the vintage year method, accumulated depreciation on individual items of plant  
9           investment is not tracked separately, but rather an investment vintage year is assigned to  
10          the annual additions to plant included in a given NARUC account number. By assigning  
11          identifying years to the annual plant additions, Staff can determine the approximate age,  
12          respective costs, and total recovery through depreciation expense of the amounts included  
13          in each NARUC balance supporting the Utility Plant in Service (“UPIS”) balance.

14  
15       **Q.    In Staff’s opinion, would tracking the vintage year associated with annual plant**  
16       **investment be a difficult task?**

17       A.    No. Staff is not aware of any reason that identifying the year of plant investment  
18          purchases would be difficult from an accounting perspective, or excessively time  
19          consuming.

20  
21       **Q.    Please describe Staff’s analysis.**

22       A.    Staff reviewed the plant investment information from the Company’s prior rate case and  
23          determined the amount of UPIS and Accumulated Depreciation for each by NARUC plant  
24          account. The amounts approved in the last rate case were assigned a vintage year of 2006,  
25          the test year in the prior proceeding. Using the additions, deletions and adjustments data  
26          provided by the Company in response to several data requests, Staff performed a roll  
27          forward of UPIS and Accumulated Depreciation by year and determined that certain items  
28          of plant owned by the Company in 2006 are fully depreciated, and fully recovered through  
29          rates. In its direct testimony, Staff identified three NARUC plant accounts which it

1 believed were fully depreciated. However, Staff has now concluded only two accounts  
2 include fully depreciated plant, as shown on lines 11 and 23 on Surrebuttal Schedule  
3 GWB-16.

4  
5 **Q. Does Staff have any other concerns regarding the schedules provided by the**  
6 **Company in support of its rebuttal position?**

7 **A.** Yes. In its testimony, the Company states that it disagrees with the use of vintage year  
8 method to calculate depreciation expense but calculates its Accumulated Depreciation  
9 balance that, at least in part, uses that methodology.

10  
11 On Company rebuttal schedule B-2, page 1, the Company proposes Accumulated  
12 Depreciation of \$25,773,188 which consists of \$25,692,541 related to its plant at the end  
13 of the test year, plus \$80,647 to reflect one half year of Accumulated Depreciation on its  
14 post-test year plant, as shown on Company rebuttal schedule B-2, page 3. In support of  
15 the \$25,692,541 related to plant actually in service at the end of the test year, the  
16 Company provides a roll forward schedule included as Exhibit SLH-2R, pages 1 through  
17 16. As shown on page 15 of 16 of Exhibit SLH-2R, the Company applies a vintage year  
18 approach to account 341, Transportation Equipment. In plant account 341, Transportation  
19 Equipment, the Company calculates 2012 depreciation expense of \$36,910 on an average  
20 plant balance of \$435,824 (December 31, 2011 balance of \$456,043 plus December 31,  
21 2012 balance of \$417,313, divided by 2), or 8.47 percent which compares with the 20.00  
22 percent depreciation rate for this account, as shown on line 22 in Surrebuttal Schedule  
23 GWB-16. One of the reasons to explain this is that as indicated on page 15 of Exhibit  
24 SLH-2R, the Company uses the vintage year approach for this account and proposes only  
25 \$26,968 of depreciation expense for its 2006 vintage year plant which was valued at  
26 \$385,355 at December 31, 2011 and \$334,975 on December 31, 2012, for an average of



1       \$360,165 which multiplied by 20.00 percent would have resulted in depreciation expense  
2       of \$72,033 for this item.

3  
4       Further review of Exhibit SLH-2R indicates that the Company adds 2012 depreciation  
5       expense of \$36,910 for plant account 341, Transportation Equipment to the December 31,  
6       2011 accumulated depreciation of \$456,043, and subtracts accumulated depreciation of  
7       \$77,348 related to 2012 retirements, for accumulated depreciation of \$415,605 at the end  
8       of December 31, 2012. The Company includes \$415,605 for this account to compute total  
9       accumulated depreciation of \$25,692,540 for plant actually in service at December 31,  
10      2012.

11  
12      Staff further determined that if the Company had calculated 2012 depreciation expense for  
13      plant account 341, Transportation Equipment consistent with the Company's proposed  
14      group method, this account would be fully depreciated, except for \$9,637 of post-test plant  
15      as shown line 26 in Surrebuttal Schedule GWB-6. Adoption of the Company's proposal  
16      would result in the annual recovery of \$85,390 of depreciation expense each year until the  
17      next rate case on a net (post-test year) investment in UPIS of \$9,637. The \$85,390 is  
18      based on the final balance in account 341, Transportation Equipment of \$426,950,  
19      multiplied by a 20.00 percent depreciation rate, as shown on line 26 in Surrebuttal  
20      Schedule GWB-16. This over recovery of investment in UPIS would represent a very  
21      significant inequity to the ratepayers.

22  
23   **Q.    What does Staff recommend?**

24   **A.    Staff recommends a reduction of \$438,766 from \$2,014,048 to \$1,575,282 of Depreciation**  
25   **and Amortization Expense as shown in Surrebuttal Schedules GWB-11 and GWB-16.**  
26   **Staff also recommends accumulated depreciation of \$25,799,789 as discussed above and**

1           calculated based on consistent application of the vintage year method. Staff also requests  
2           that the Company revisit the schedule contained in Exhibit SLH-2R and update as  
3           necessary for inclusion in any rejoinder testimony that the Company may file.  
4

5   **RATE DESIGN**

6   **Q.    Did Staff review the Company's Rebuttal Testimony concerning rate design?**

7   **A.    Yes.**  
8

9   **Q.    Does Staff agree?**

10   **A.    No. Staff has not changed the fundamentals of its rate design.**  
11

12   **Q.    Does this conclude your Surrebuttal Testimony?**

13   **A.    Yes, it does.**

**SURREBUTTAL TESTIMONY OF GERALD BECKER**

**TABLE OF CONTENTS TO SCHEDULES :**

<b><u>SCH #</u></b>	<b><u>TITLE</u></b>
GWB- 1	REVENUE REQUIREMENT
GWB- 2	GROSS REVENUE CONVERSION FACTOR
GWB- 3	RATE BASE - ORIGINAL COST
GWB- 4	SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS
GWB- 5	RATE BASE ADJUSTMENT #1 RECLASSIFICATION
GWB- 6	RATE BASE ADJUSTMENT #2 POST TEST YEAR PLANT
GWB- 7	RATE BASE ADJUSTMENT #3 UTILITY PLANT IN SERVICE AND ACCUMULATED DEPRECIATION
GWB- 8	RATE BASE ADJUSTMENT #4 REVERSAL OF AFUDC AND DEFERRED DEPRECIATION DEFERRAL
GWB- 9	RATE BASE ADJUSTMENT #5 CASH WORKING CAPITAL
GWB- 10	OPERATING INCOME STATEMENT - TEST YEAR AND STAFF RECOMMENDED
GWB- 11	SUMMARY OF OPERATING INCOME ADJUSTMENTS - TEST YEAR
GWB- 12	OPERATING INCOME ADJUSTMENT #1 - EXCESS WATER LOSS
GWB- 13	OPERATING INCOME ADJUSTMENT #2 - INCENTIVE COMPENSATION & CONTRIBUTIONS, DUES
GWB- 14	OPERATING INCOME ADJUSTMENT #3 - PURCHASED WATER EXPENSE
GWB- 15	NOT USED
GWB- 16	OPERATING INCOME ADJUSTMENT #4 - DEPRECIATION EXPENSE
GWB- 17	OPERATING INCOME ADJUSTMENT #5 - INCOME TAXES
GWB- 18	OPERATING INCOME ADJUSTMENT #6 - PROPERTY TAX EXPENSE GRCF COMPONENT

REVENUE REQUIREMENT

LINE NO.	DESCRIPTION	(A) COMPANY ORIGINAL COST	(B) COMPANY FAIR VALUE	(C) STAFF ORIGINAL COST	(D) STAFF FAIR VALUE
1	Adjusted Rate Base	\$ 27,269,321	\$ 27,269,321	\$ 27,076,778	\$ 27,076,778
2	Adjusted Operating Income (Loss)	\$ 889,596	\$ 889,596	\$ 1,339,452	\$ 1,339,452
3	Current Rate of Return (L2 / L1)	3.26%	3.26%	4.95%	4.95%
4	Required Rate of Return	10.21%	10.21%	7.90%	7.90%
5	Required Operating Income (L4 * L1)	\$ 2,783,254	\$ 2,783,254	\$ 2,139,065	\$ 2,139,065
6	Operating Income Deficiency (L5 - L2)	\$ 1,893,658	\$ 1,893,658	\$ 799,614	\$ 799,614
7	Gross Revenue Conversion Factor	1.658709	1.658709	1.649195	1.649195
8	Required Revenue Increase (L7 * L6)	\$ 3,141,028	\$ 3,141,028	<b>\$ 1,318,719</b>	<b>\$ 1,318,719</b>
9	Adjusted Test Year Revenue	\$ 9,014,985	\$ 9,014,985	\$ 9,014,985	\$ 9,014,985
10	Proposed Annual Revenue (L8 + L9)	\$ 12,156,013	\$ 12,156,013	\$ 10,333,705	\$ 10,333,705
11	Required Increase in Revenue (%)	34.84%	34.84%	14.63%	14.63%
12	Rate of Return on Common Equity (%)	11.05%	11.05%	9.60%	9.60%

References:

Column (A): Company Schedule A-1

Column (B): Company Schedule A-1

Column (C): Staff Schedules GWB-2, GWB-3, and GWB-10

GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	(A)	(B)	(C)
<u>Calculation of Gross Revenue Conversion Factor:</u>				
1	Revenue	100.0000%		
2	Uncollectible Factor (Line 11)	0.5492%		
3	Revenues (L1 - L2)	99.4508%		
4	Combined Federal and State Income Tax and Property Tax Rate (Line 23)	38.8152%		
5	Subtotal (L3 - L4)	60.6356%		
6	Revenue Conversion Factor (L1 / L5)	1.649195		
<u>Calculation of Uncollectible Factor:</u>				
7	Unity	100.0000%		
8	Combined Federal and State Tax Rate (Line 17)	38.2900%		
9	One Minus Combined Income Tax Rate (L7 - L8)	61.7100%		
10	Uncollectible Rate	0.8900%		
11	Uncollectible Factor (L9 * L10)		0.54822%	
<u>Calculation of Effective Tax Rate:</u>				
12	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%		
13	Arizona State Income Tax Rate	6.5000%		
14	Federal Taxable Income (L12 - L13)	93.5000%		
15	Applicable Federal Income Tax Rate (Line 44)	34.0000%		
16	Effective Federal Income Tax Rate (L14 x L15)	31.7900%		
17	Combined Federal and State Income Tax Rate (L13 + L16)		38.2900%	
<u>Calculation of Effective Property Tax Factor</u>				
18	Unity	100.0000%	6.968%	
19	Combined Federal and State Income Tax Rate (L17)	38.2900%		
20	One Minus Combined Income Tax Rate (L18-L19)	61.7100%		
21	Property Tax Factor (GWB-18, L25)	0.8510%		
22	Effective Property Tax Factor (L20*L21)		0.5252%	
23	Combined Federal and State Income Tax and Property Tax Rate (L17+L22)			38.8152%
24	Required Operating Income (Schedule GWB-1, Line 5)	\$ 2,139,065		
25	Adjusted Test Year Operating Income (Loss) (Schedule GWB-10, Line 36)	\$ 1,339,452		
26	Required Increase in Operating Income (L24 - L25)		\$ 799,614	
27	Income Taxes on Recommended Revenue (Col. (C), L48)	\$ 974,439		
28	Income Taxes on Test Year Revenue (Col. (A), L48)	\$ 478,293		
29	Required increase in Revenue to Provide for Income Taxes (L27 - L28)		\$ 496,147	
30	Required Revenue Increase (Schedule GWB-1, Line 8)	\$ 1,318,719		
31	Uncollectible Rate (Line 10)	0.8900%		
32	Uncollectible Expense on Recommended Revenue (L30 * L31)	\$ 11,737		
33	Adjusted Test Year Uncollectible Expense - N/A	\$ -		
34	Required Increase in Revenue to Provide for Uncollectible Exp.		\$ 11,737	
35	Property Tax with Recommended Revenue (GWB-18, Line 21)	\$ 243,434		
36	Property Tax on Test Year Revenue (GWB-18, Col A, L19)	\$ 232,211		
37	Increase in Property Tax Due to Increase in Revenue (L35-L36)		\$ 11,222	
38	Total Required Increase in Revenue (L26 + L29 + L34+ L37)		\$ 1,318,719	

	(A) Test Year	(B)	(C) Staff Recommended
<u>Calculation of Income Tax:</u>			
39	Revenue (Sch GWB-10, Col.(C) L4, GWB-1, Col. (D), L10)	\$ 9,014,985	\$ 10,333,705
40	Operating Expenses Excluding Income Taxes	\$ 7,187,241	\$ 7,220,200
41	Synchronized Interest (L53)	\$ 568,612	\$ 568,612
42	Arizona Taxable Income (L39 - L40 - L41)	\$ 1,249,132	\$ 2,544,892
43	Arizona State Income Tax Rate	6.5000%	6.5000%
44	Arizona Income Tax (L42 x L43)	\$ 81,194	\$ 165,418
45	Federal Taxable Income (L42 - L44)	\$ 1,167,938	\$ 2,379,474
46	Federal Tax	\$ 397,099	\$ 809,021
47	Total Federal Income Tax	\$ 397,099	\$ 809,021
48	Combined Federal and State Income Tax (L43 + L47)	\$ 478,293	\$ 974,439

50 Effective Tax Rate

Calculation of Interest Synchronization:

51	Rate Base (Schedule GWB-3, Col. (C), Line 18)	N/A
52	Weighted Average Cost of Debt	\$ 27,076,778
53	Synchronized Interest (L50 X L51)	2.1000%
		\$ 568,612

**RATE BASE - ORIGINAL COST**

LINE NO.		(A) COMPANY AS FILED	(B) STAFF ADJUSTMENTS	(C) STAFF AS ADJUSTED
1	Plant in Service	\$ 69,502,064	\$ 595,207	\$ 70,097,271
2	Less: Accumulated Depreciation	25,734,123	65,666	25,799,789
3	Net Plant in Service	<u>\$ 43,767,941</u>	<u>\$ 529,541</u>	<u>\$ 44,297,482</u>
<u>LESS:</u>				
4	Contributions in Aid of Construction (CIAC)	\$ 14,991,871	\$ -	\$ 14,991,871
5	Less: Accumulated Amortization	2,529,950	-	2,529,950
6	Net CIAC	<u>12,461,921</u>	<u>-</u>	<u>12,461,921</u>
7	Advances in Aid of Construction (AIAC)	4,008,916	-	4,008,916
8	Customer Meter Deposits	1,950		1,950
9	Deferred Income Taxes	1,271,696		1,271,696
10	FHSD Settlement	449,580		449,580
<u>ADD:</u>				
11	Working Capital Allowance	1,009,341	(114,187)	895,154
12	Deferred Debits	686,104	(607,898)	78,206
13	<b>Original Cost Rate Base</b>	<u><u>\$ 27,269,321</u></u>	<u><u>\$ (192,543)</u></u>	<u><u>\$ 27,076,778</u></u>

References:

Column (A), Company Schedule B-2  
Column (B): Schedule GWB-4  
Column (C): Column (A) + Column (B)

Chaparral City Water Company  
Docket No. W-02113A-13-0118  
Test Year Ended December 31, 2012

Schedule GWB-4  
SURREBUTTAL

SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS

LINE NO.	ACCT. NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] Reclassification ADJ #1 GWB-5	[C] Post Test Year Plant ADJ #2 GWB-6	[E] UPIS & ACC. DEPREC. ADJ #3 GWB-7	[F] ADFUC Deferral ADJ #4 GWB-8	[G] Working Capital ADJ #5 GWB-9	[H] STAFF ADJUSTED
PLANT IN SERVICE:									
1	303	Other Intangible Plant	1,282,734	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,282,734
2	303	Land and Land Rights	271,857						271,857
3	304	Structures and Improvements - Pumping	190,044						190,044
4	304	Structures and Improvements - Treatment	593,063						593,063
5	304	Structures and Improvements - T & D	169,971						169,971
6	304	Structures & Improvements - General	826,312		168,610	(594)			994,328
7	305	Collecting and Impounding Reservoirs	1,013,959			(11,800)			1,002,159
8	307	Wells	953,001		(793,374)				159,627
9	309	Supply Mains	2,201,526						2,201,526
10	311	Pumping Equipment & Other Pumping Plant	6,056,668		(130,000)	49,378			5,976,046
11	320.1	Water Treatment Equipment	6,960,463		741,809	6,946			7,709,217
12	330	Reservoirs and Tanks	6,235,113	(6,235,113)					-
13	330.1	Storage Tanks		6,235,113	(575,439)	2,667			5,662,341
14	331	Transmission and Distribution Mains	24,744,309		838,725	9,132			25,592,166
15	333	Services	11,300,767		150,079	16,750			11,467,597
16	334	Meters	3,216,068		(181,450)	3,556			3,038,174
17	335	Hydrants	2,029,913		45,030	11,047			2,085,990
18	339	Other Transmission & Distribution Plant	132,558		(22,842)	41,221			150,937
19	339	Other Transmission & Distribution Plant	143,521						143,521
20	340	Office Furniture and Equipment, Computers,	305,068						305,068
21	341	Transportation Equipment	503,910		389	(77,349)			426,950
22	343	Power Operated Equipment & Tool, Shop an	222,439		189,169				411,608
23	345	Power Operated Equipment	0						-
24	346	Communication Equipment	102,326		154,768				257,094
25	347	Other General Plant	41,221			(41,221)			0
26		Company's reconciling Adjustment	5,253						5,253
27		Total Plant in Service	69,502,064	(0)	585,474	9,733			70,097,271
28									
29		Accumulated Depreciation	25,734,123			65,866			25,799,789
30		Net Plant in Service	\$ 43,767,941	\$ (0)	\$ 585,474	\$ (55,932)	\$ -	\$ -	\$ 44,297,482
31									
32		LESS:							
33		Contributions in Aid of Construction (CIAC)	\$ 14,991,871						\$ 14,991,871
34		Less: Accumulated Amortization	2,529,950						2,529,950
35		Net CIAC (L63 - L64)	12,461,921						12,461,921
36		Advances in Aid of Construction (AIAC)	4,008,916						4,008,916
37		Customer Meter Deposits	1,950						1,950
38		Deferred Income Taxes	1,271,696						1,271,696
39		FHSD Settlement	449,580						449,580
40		ADD:							
41		Working Capital Allowance	1,009,341					(114,187)	895,154
42		Deferred Debits	686,104				(607,898)		78,206
43		Original Cost Rate Base	\$ 27,269,321	\$ (0)	\$ 585,474	\$ (55,932)	\$ (607,898)	\$ (114,187)	\$ 27,076,778

Chaparral City Water Company  
Docket No. W-02113A-13-0118  
Test Year Ended December 31, 2012

Schedule GWB-5  
SURREBUTTAL

**RATE BASE ADJUSTMENT #1 RECLASSIFICATION**

LINE NO.	ACCT NO.	Description	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	330	Reservoirs and Tanks	6,235,113	(6,235,113)	-
	330.1	Storage Tanks	-	6,235,113	6,235,113

References:

Column [A] : Amount reflected in Acct. 330, Reservoirs and Tanks

Column [B] , Col [C] less Col [A]

Column [C] , Per testimony GWB



RATE BASE ADJUSTMENT #2 POST TEST YEAR PLANT

LINE NO.	ACCT NO. & DESCRIPTION OF PROJECT	[A] ORIGINAL PROJECT ESTIMATES	[B] STAFF AS ADJUSTED	[C] STAFF ADJUSTMENT
1	304500 Office & Ops Center	-	168,610	168,610
2	311000 Electrical Annual Program	130,000	-	(130,000)
3	307000 Well #10 Arsenic Treatment	793,374		(793,374)
4	320.1 Well #10 Arsenic Treatment	-	1,077,467	1,077,467
5	Subtotal (Net Inc.) to Acct. 320.1	793,374	1,077,467	284,093
5	320000 Shea WTP Filter Media	59,369	73,035	13,666
6	320000 Shea WTP Improvements	350,000	676	(349,324)
7	Total Adj to Acct 320.1	1,202,743	1,151,178	(51,565)
8	330000 Reservoir #2 Rehabilitation	595,860	670,421	74,561
9	330000 Lotus Reservoir 3	-	-	-
10	330000 Crestview Reservoir 7	-	-	-
11	330000 2013 Recurring Projects - Facilities	650,000	-	(650,000)
12	Total Adj to 330.1	1,245,860	670,421	(575,439)
13	331001 Distribution System	53,577	66,964	13,387
14	331001 Distribution Improvements	300,000	1,125,338	825,338
15	331001 Misc system improvements	-	-	-
16	331001 Main breaks	-	-	-
17	331001 Manholes replaced	-	-	-
18	331001 Valves new	-	-	-
19	331001 Valves replaced	-	-	-
20	331001 Mains scheduled	-	-	-
21	Total Adj to Acct 331.1	353,577	1,192,302	838,725
22	333000 Services Replaced	410,000	560,079	150,079
23	334100 Meters Replaced	300,000	118,550	(181,450)
24	335000 Hydrants Replaced	10,000	55,030	45,030
25	339600 Comprehensive Planning Study (Chloramination)	132,558	109,716	(22,842)
26	341100 Vehicles	9,248	9,637	389
27	343000 Tools & Equipment	31,777	220,946	189,169
28	343000 Tools & Equipment	-	-	-
29	Total Adj to Acct. 343	31,777	220,946	189,169
30	346000 ESRI Project (GIS)	-	-	-
31	346200 IPT Deployment	59,000	213,768	154,768
32	346200 Scada & Firewall	-	-	-
	Total Adj to Acct. 346	59,000	213,768	154,768
33	347000 Security	-	-	-
34	Comprehensive Planning Study (Well 11 Restoration)	-	-	-
35	Comprehensive Planning Study	-	-	-
36	Reservoir #2 Rehabilitation	-	-	-
37	Reservoir #2 Rehabilitation	-	-	-
38	Developer Funded	-	-	-
39	Totals	3,884,763	4,470,237	585,474

References:

Column [A] : Amount per Company application and response to Staff DR

Column [B] , Col [C] less Col [A]

Column [C] : Amount per Company response to Staff DR and Testimony GWB

RATE BASE ADJUSTMENT #3 UTILITY PLANT IN SERVICE AND ACCUMULATED DEPRECIATION

Line No.	Sub. Acct.	Description Company Application	Company Application E-5	Company Subtotal	Staff	Adjustment	Staff Calculated	Fully Depreciated
			Plant Balance 12/31/2012				Accum Depreciations	
1	303100	Other Intangible Plant	-	-	-	-	-	-
2	303600	Land and Land Rights	1,554,591	1,554,591	1,554,591	-	-	-
3	304200	Structures and Improvements - P	190,044					
4	304300	Structures and Improvements - Ti	593,063					
5	304400	Structures and Improvements - T	169,971					
6	304500	Structures & Improvements - Ger	826,312	1,779,390	1,778,796	(594)	687,608	
7	305000	Collecting and Impounding Reser	1,019,211	1,019,211	1,007,411	(11,800)	457,368	
8	307000	Wells	159,628	159,628	159,627	(1)	108,329	
9	309000	Supply Mains	2,201,526	2,201,526	2,201,526	-	938,965	
10	311000	Pumping Equipment & Other Pun	5,926,668	5,926,668	5,976,046	49,378	4,868,619	3,365,052
11	320100	Water Treatment Equipment	6,551,094	6,551,094	6,558,040	6,946	1,513,186	
12	330000	Reservoirs and Tanks	4,989,253	4,989,253	4,991,920	2,667	1,636,582	
13	331001	Transmission and Distribution Me	24,390,732	24,390,732	24,399,864	9,132	9,619,484	
14	333000	Services	10,890,767	10,890,767	10,907,517	16,750	2,532,141	
15	334100	Meters	2,916,068	2,916,068	2,919,624	3,556	2,374,387	
16	335000	Hydrants	2,019,913	2,019,913	2,030,960	11,047	387,168	
18	339100	Other Transmission & Distribution	143,521	143,521	184,742	41,221	39,870	
19	340100	Office Furniture and Equipment, i	305,068	305,068	305,067	(1)	152,715	
20	341100	Transportation Equipment	494,662	494,662	417,313	(77,349)	415,605	400,233
21	343000	Power Operated Equipment & To	190,662	190,662	190,661	(1)	41,094	
22	345000	Power Operated Equipment	-	-	-	-	-	
23	346200	Communication Equipment	43,326	43,326	43,327	1	26,668	
24	347000	Other General Plant	41,221	41,221	-	(41,221)	-	
26	Total		\$ 65,617,302	\$ 65,617,301	\$ 65,627,032	\$ 9,731	\$ 25,799,789	\$ 3,765,285

See Note

Note: Some \$1 adjustments waived, plus rounding, net adjustment of \$9,733 on GWB-4

Chaparral City Water Company  
Docket No. W-02113A-13-0118  
Test Year Ended December 31, 2012

Schedule GWB-8  
SURREBUTTAL

**RATE BASE ADJUSTMENT #4 REVERSAL OF AFUDC AND DEFERRED DEPRECIATION DEFERRAL**

LINE NO.	ACCT NO.	Description	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1		Deferred Debits	607,898	(607,898)	

References:

Column [A] : Amount reflected on Co Schedule B-2, as part of Deferred Debits

Column [B] , Col [C] less Col [A]

Column [C] , Per testimony GWB

RATE BASE ADJUSTMENT #5 CASH WORKING CAPITAL

Line No.	(A) Description	(B) Proforma Test Year Amount	(C) Revenue Lag (Lead) Days	(D) Expense Lag (Lead) Days	(E) Net Lag (Lead) Days Col. C - Col. D	(F) Lead/Lag Factor Col. E/365	(G) Cash Working Capital Required Col. B * Col. F
5	OPERATING EXPENSES						
6	Labor	\$ 1,024,112	34.93	13.09	21.84	0.05983271	\$ 61,275
7	Purchased Water	1,116,879	34.93	43.67	(8.74)	-0.0239481	(26,747)
8	Fuel & Power	\$ 585,139	34.93	27.86	7.07	0.01936695	11,332
9	Chemicals	\$ 115,182	34.93	(79.22)	114.15	0.31273681	36,022
10	Waste Disposal	\$ 7,113	34.93	41.90	(6.97)	-0.0190988	(136)
11	Intercompany Support Services	\$ 94,150	34.93	29.99	4.94	0.01353134	1,274
12	Corporate Allocation	\$ 393,092	34.93	30.00	4.93	0.01350394	5,308
13	Outside Services	\$ 508,106	34.93	88.00	(53.07)	-0.1454002	(73,879)
14	Group Insurance	\$ 178,067	34.93	12.00	22.93	0.06281901	11,186
15	Pensions	\$ 85,086	34.93	67.98	(33.05)	-0.0905509	(7,705)
16	Insurance Other Than Group	\$ 73,025	34.93	(26.14)	61.07	0.16731216	12,218
17	Customer Accounting	\$ 330,695	34.93	26.53	8.40	0.02301079	7,610
18	Rents	\$ 1,504	34.93		34.93	0.09569572	144
19	General Office Expense	\$ 164,179	34.93	39.69	(4.76)	-0.013044	(2,142)
20	Miscellaneous	\$ 158,553	34.93	(3.22)	38.15	0.10451764	16,572
21	Maintenance Expense	\$ 388,614	34.93	17.28	17.65	0.04835325	18,791
22	Intest Expense <sup>1</sup>	\$ 568,612	34.93	91.25	(56.32)	-0.1543043	(87,739)
23							
24	TAXES						
25	General Taxes-Property <sup>1</sup>	\$ 243,434	34.93	213.96	(179.0294)	(0.4905)	\$ (119,402)
26	General Taxes-Other	\$ 86,320	34.93	3.03	31.8989	0.0874	7,544
27	Income Tax <sup>1</sup>	\$ 974,439	34.93	37.00	(2.0711)	(0.0057)	(5,529)
28	TOTAL	\$ 7,096,303			CASH WORKING CAPITAL REQUIREMENT		\$ (134,003)

<sup>1</sup>At proposed rates.

	Per Co	Per Staff	Adjustment
34 Cash Working Capital Requirement	\$ (19,817)	\$ (134,003)	\$ (114,187)
35 Required Bank Balances	780,673	780,673	-
36 Prepayments	248,484	248,484	-
37 Total Working Capital Allowance	1,009,341	895,154	(114,187)

OPERATING INCOME STATEMENT - TEST YEAR AND STAFF RECOMMENDED

LINE NO.	DESCRIPTION	(A) COMPANY TEST YEAR AS FILED	(B) STAFF TEST YEAR ADJUSTMENTS	(C) STAFF TEST YEAR AS ADJUSTED	(D) STAFF RECOMMENDED CHANGES	(E) STAFF RECOMMENDED
	<b>Revenues</b>	\$ -	\$ -	\$ -	\$ -	\$ -
1	Water Revenues	8,915,656	-	8,915,656	1,318,720	10,234,376
2	Other Revenues	99,329	-	99,329	-	99,329
3		-	-	-	-	-
4	Total Operating Revenues	\$ 9,014,985	\$ -	\$ 9,014,985	\$ 1,318,720	\$ 10,333,705
	<b>Operating Expenses</b>					
5	Labor	\$ 1,024,112	\$ -	\$ 1,024,112	\$ -	\$ 1,024,112
6	Purchased Water	1,065,953	50,926	1,116,879	-	1,116,879
7	Fuel & Power	605,885	(20,746)	585,139	-	585,139
8	Chemicals	119,266	(4,084)	115,182	-	115,182
9	Waste Disposal	7,113	-	7,113	-	7,113
10	Intercompany Support Services	94,150	-	94,150	-	94,150
11	Corporate Allocation	500,330	(107,238)	393,092	-	393,092
12	Outside Services	508,106	-	508,106	-	508,106
13	Group Insurance	178,067	-	178,067	-	178,067
14	Pensions	85,086	-	85,086	-	85,086
15	Regulatory Expense	91,668	-	91,668	-	91,668
16	Insurance Other Than Group	73,025	-	73,025	-	73,025
17	Customer Accounting	318,959	-	318,959	11,737	330,695
18	Rents	1,504	-	1,504	-	1,504
19	General Office Expense	164,179	-	164,179	-	164,179
20	Miscellaneous	158,553	-	158,553	-	158,553
21	Maintenance Expense	388,614	-	388,614	-	388,614
22	Depreciation & Amortization	2,014,048	(438,766)	1,575,282	-	1,575,282
23	General Taxes-Property	251,038	(18,828)	232,210	11,222	243,433
24	General Taxes-Other	86,320	-	86,320	-	86,320
25	Income Taxes	389,412	88,880	478,293	496,147	974,439
26	Total Operating Expenses	\$ 8,125,389	\$ (449,856)	\$ 7,675,534	\$ 519,106	\$ 8,194,639
27	Operating Income (Loss)	\$ 889,596	\$ 449,856	\$ 1,339,452	\$ 799,615	\$ 2,139,065

References:

Column (A): Company Schedule C-1  
Column (B): Schedule GWB 11  
Column (C): Column (A) + Column (B)  
Column (D): Schedules GWB 2, Lines 29, 34 and 37  
Column (E): Column (C) + Column (D)

SUMMARY OF OPERATING INCOME ADJUSTMENTS - TEST YEAR

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] Excess Water Loss ADJ #1 GWB-12	[C] Inc. Comp. ADJ #2 GWB-13	[D] Purchased Water Exp ADJ #3 GWB-14	[E] Deprec. Exp ADJ #5 GWB-16	[F] PROPERTY TAXES ADJ #5 GWB-18	[G] Income Taxes ADJ #6 GWB-17	[H] STAFF ADJUSTED
	Revenues								
1	Water Revenues	\$ 8,915,656	-	-	-	-	-	-	8,915,656
2	Other Revenues	99,329	-	-	-	-	-	-	99,329
3	Total Operating Revenues	\$ 9,014,985	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9,014,985
	Operating Expenses								
4	Labor	\$ 1,024,112							1,024,112
5	Purchased Water	1,065,953	(39,598)		90,524				1,116,879
6	Fuel & Power	605,885	(20,746)						585,139
7	Chemicals	119,266	(4,084)						115,182
8	Waste Disposal	7,113							7,113
9	Intercompany Support Services	94,150		(107,238)					94,150
10	Corporate Allocation	500,330							393,092
11	Outside Services	508,106							508,106
12	Group Insurance	178,067							178,067
13	Pensions	85,086							85,086
14	Regulatory Expense	91,668							91,668
15	Insurance Other Than Group	73,025							73,025
16	Customer Accounting	318,959							318,959
17	Rents	1,504							1,504
18	General Office Expense	164,179							164,179
19	Miscellaneous	158,553							158,553
20	Maintenance Expense	388,614							388,614
21	Depreciation & Amortization	2,014,048				(438,766)	(18,828)		1,575,282
22	General Taxes-Property	251,038							232,210
23	General Taxes-Other	86,320							86,320
24	Income Taxes	389,412						88,880	478,293
25	Total Operating Expenses	\$ 8,125,389	\$ (64,428)	\$ (107,238)	\$ 90,524	\$ (438,766)	\$ (18,828)	\$ 88,880	\$ 7,675,534
26	Operating Income	\$ 889,596	\$ 64,428	\$ 107,238	\$ (90,524)	\$ 438,766	\$ 18,828	\$ (88,880)	\$ 1,339,452

Chaparral City Water Company  
Docket No. W-02113A-13-0118  
Test Year Ended December 31, 2012

Schedule GWB-12  
SURREBUTTAL

OPERATING INCOME ADJUSTMENT #1 - EXCESS WATER LOSS

LINE  
NO.

1	One plus allowable water loss	110.00%
2	One plus actual water loss	113.90%
3	Allowable portion	96.58%
4	Disallowable portion	3.42%
5	Power Expense	\$ 605,885
6	Disallowance	20,746
7	Chemical Expense	\$ 119,266
8	Disallowance	4,084
9	Purchased Water Expense	\$ 1,156,477
10	Disallowance	39,598

Line 1: Maximum acceptable level of water losses

Line 2: Actual level of water losses

Line 3: Line 2 / line 3

Line 4: 1 minus line 4

Lines 5, and 7: Per Schedule GWB-11, Col [A]

Line 9 : Per Schedule GWB-11, Col [A] plus Col [D]

Line 6: Line 5 times line 4

Line 8: Line 7 times line 4

Line 10: Line 9 times line 4

Chaparral City Water Company  
Docket No. W-02113A-13-0118  
Test Year Ended December 31, 2012

Schedule GWB-13  
SURREBUTTAL

**OPERATING INCOME ADJUSTMENT #2 - INCENTIVE COMPENSATION & CONTRIBUTIONS, DUES**

LINE NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] STAFF ADJUSTMENTS	[C] STAFF RECOMMENDED*
1	Incentive Comp	\$ 89,517	\$ (89,517)	\$ -
2	Contributions and Dues	\$ 17,721	\$ (17,721)	\$ -
	Total Adjustment	\$ 107,238	\$ (107,238)	\$ -

References:

Column (A), Per Company Response to Staff data request

Column (B): Testimony GWB

Column (C): Column (A) + Column (B)



Chaparral City Water Company  
Docket No. W-02113A-13-0118  
Test Year Ended December 31, 2012

Schedule GWB-14  
SURREBUTTAL

OPERATING INCOME ADJUSTMENT #3 - PURCHASED WATER EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] STAFF ADJUSTMENTS	[C] STAFF RECOMMENDED*
1		\$ 1,065,953	\$ 90,524	\$ 1,156,477

References:

Column (A), Company Workpapers

Column (B): Testimony GWB

Column (C): Column (A) + Column (B), Per Co Response  
to Staff DR 4.4

Chaparral City Water Company  
Docket No. W-02113A-13-0118  
Test Year Ended December 31, 2012

Schedule GWB-16  
SURREBUTTAL

OPERATING INCOME ADJUSTMENT #4 - DEPRECIATION EXPENSE

LINE NO.	ACCT. NO.	DESCRIPTION	[A] PLANT BALANCE	[B] FULLY DEPRECIATED	[C] DEPRECIABLE AMOUNT	[D] DEPRECIATION RATE	[E] DEPRECIATION EXPENSE
1		<u>PLANT IN SERVICE:</u>					
2	303	Other Intangible Plant	\$ 1,282,734		\$ 1,282,734	0.00%	-
3	303	Land and Land Rights	271,857		271,857	0.00%	-
4	304	Structures and Improvements - Pumping	190,044		190,044	3.33%	6,328
5	304	Structures and Improvements - Treatment	593,063		593,063	3.33%	19,749
6	304	Structures and Improvements - T & D	169,971		169,971	3.33%	5,660
7	304	Structures & Improvements - General	994,328		994,328	3.33%	33,111
8	305	Collecting and Impounding Reservoirs	1,002,159		1,002,159	2.50%	25,054
9	307	Wells	159,627		159,627	3.33%	5,316
10	309	Supply Mains	2,201,526		2,201,526	2.00%	44,031
11	311	Pumping Equipment & Other Pumping Plant	5,976,046	(3,365,052)	2,610,994	12.50%	326,374
12	320.1	Water Treatment Equipment	7,709,217		7,709,217	3.33%	256,717
13	330	Reservoirs and Tanks	-		-	0.00%	-
14	330.1	Storage Tanks	5,662,341		5,662,341	2.22%	125,704
15	331	Transmission and Distribution Mains	25,592,166		25,592,166	2.00%	511,843
16	333	Services	11,467,597		11,467,597	3.33%	381,871
17	334	Meters	3,038,174		3,038,174	8.33%	253,080
18	335	Hydrants	2,085,990		2,085,990	2.00%	41,720
19	339	Other Transmission & Distribution Plant	150,937		150,937	6.67%	10,067
20	339	Other Transmission & Distribution Plant	143,521		143,521	6.67%	9,573
21	340	Office Furniture and Equipment, Computers, Software, Peripherals	305,068		305,068	6.67%	20,348
22	341	Transportation Equipment	426,950	(400,233)	26,717	20.00%	5,343
23	343	Power Operated Equipment & Tool, Shop and Garage Equipment	411,608		411,608	5.00%	20,580
24	345	Power Operated Equipment	-		-	5.00%	-
25	346	Communication Equipment	257,094		257,094	10.00%	25,709
26	347	Other General Plant	0		0	10.00%	0
27		Company's reconciling Adjustment	5,253		5,253		-
28		Total Utility Plant in Service	\$ 70,097,271	\$ (3,765,285)	\$ 66,331,986		\$ 2,128,180
29		Less: Non Depreciable Plant					
30		Other Intangible Plant			1,554,591		
31		Net Depreciable Plant and Depreciation Amounts			\$ 64,777,395		\$ 2,128,180
32							
33		Amortization of CIAC			\$ 14,991,871	3.2854%	492,539
34		Staff Recommended Depreciation Expense					\$ 1,635,641
35		Deferred CAP Amortization					15,641
36		Amortization of Gains on FHSD Settlement					(76,000)
37		Company Proposed Depreciation Expense					\$ 1,575,282
38		Staff Adjustment					2,014,048
							\$ (438,786)

References:

Col [A] Schedule GWB-4  
Col [B] Fully Depreciated Plant, per Testimony  
Col [C] Col [A] less Col [B]  
Col [D] Proposed Rates per Staff Engineering  
Col [E] Col [A] times Col [B]

Chaparral City Water Company  
Docket No. W-02113A-13-0118  
Test Year Ended December 31, 2012

Schedule GWB-17  
SURREBUTTAL

**OPERATING INCOME ADJUSTMENT #5 - INCOME TAXES**

<u>LINE NO.</u>	<u>DESCRIPTION</u>	<u>[A] COMPANY PROPOSED</u>	<u>[B] STAFF ADJUSTMENTS</u>	<u>[C] STAFF RECOMMENDED</u>
1	Income Taxes	<u>\$ 389,412</u>	<u>\$ 88,880</u>	<u>\$ 478,293</u>

**References:**

Column (A), Company Schedule C-2

Column (B): Testimony GWB

Column (C): Column (A) + Column (B),  
see also Sch. GWB-2, line 48

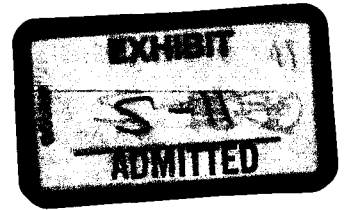
OPERATING INCOME ADJUSTMENT #6 - PROPERTY TAX EXPENSE GRCF COMPONENT

LINE NO.	DESCRIPTION	[A] STAFF AS ADJUSTED	[B] STAFF RECOMMENDED
1	Staff Adjusted Test Year Revenues - 2011	\$ 9,014,985	\$ 9,014,985
2	Weight Factor	2	2
3	Subtotal (Line 1 * Line 2)	18,029,971	18,029,971
4	Staff Adjusted Test Year Revenues - 2011	9,014,985	
5	Staff Recommended Revenue		10,333,706
6	Subtotal (Line 4 + Line 5)	27,044,956	28,363,676
7	Number of Years	3	3
8	Three Year Average (Line 5 / Line 6)	9,014,985	9,454,559
9	Department of Revenue Multiplier	2	2
10	Revenue Base Value (Line 7 * Line 8)	18,029,971	18,909,118
11	Plus: 10% of CWIP	161,294	161,294
12	Less: Net Book Value of Licensed Vehicles	-	-
13	Full Cash Value (Line 10 + Line 11 - Line 12)	18,191,265	19,070,412
14	Assessment Ratio	18.5%	18.5%
15	Assessment Value (Line 13 * Line 14)	3,365,384	3,528,026
16	Composite Property Tax Rate	6.9000%	6.9000%
17	Staff Test Year Adjusted Property Tax Expense (Line 15 * Line 16)	\$ 232,211	
18	Company Proposed Property Tax	251,038	
19	Staff Test Year Adjustment (Line 17 - Line 18)	\$ (18,828)	
20	Property Tax on Staff Recommended Revenue (Line 15 * Line 16)		\$ 243,434
21	Staff Test Year Adjusted Property Tax Expense (Line 17)		232,211
22	Increase in Property Tax Due to Increase in Revenue Requirement		\$ 11,222
23	Increase in Property Tax Due to Increase in Revenue Requirement (Line 22)		\$ 11,222
24	Increase in Revenue Requirement		\$ 1,318,720
25	Increase in Property Tax Per Dollar Increase in Revenue (Line 23 / Line 24)		0.85100%

REFERENCES:

Line 15: Composite Tax Rate, per Company  
Line 18: Company Schedule C-1, Line 36

**BEFORE THE ARIZONA CORPORATION COMMISSION**



**BOB STUMP**  
Chairman  
**GARY PIERCE**  
Commissioner  
**BRENDA BURNS**  
Commissioner  
**BOB BURNS**  
Commissioner  
**SUSAN BITTER SMITH**  
Commissioner

IN THE MATTER OF THE APPLICATION ) DOCKET NO. W-02113A-13-0118  
OF CHAPARRAL CITY WATER COMPANY )  
FOR A DETERMINATION OF THE )  
CURRENT FAIR VALUE OF ITS UTILITY )  
PLANT AND PROPERTY AND FOR )  
INCREASE IN ITS RATES AND CHARGES )  
BASED THEREON )  
\_\_\_\_\_ )

**AMENDED SURREBUTTAL**

**TESTIMONY**

**OF**

**GERALD BECKER**

**EXECUTIVE CONSULTANT**

**UTILITIES DIVISION**

**ARIZONA CORPORATION COMMISSION**

**FEBRUARY 26, 2014**

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## **ATTACHMENTS**

Staff's roll forward of UPIS and Accumulated Depreciation .....	Attachment A
Excerpt from USOA .....	Attachment B

**EXECUTIVE SUMMARY  
CHAPARRAL CITY WATER COMPANY  
DOCKET NO. W-02113A-13-0118**

Chaparral City Water Company ("CCWC" or "Company") states that it experienced an \$889,596 test year operating income resulting in a 3.26 percent rate of return. CCWC proposes a revenue increase of \$3,142,679 or 34.86 percent over the Company proposed test year revenues of \$9,014,985 to \$12,157,664. The Company's proposed revenue increase would produce an operating income of \$2,784,249 for a 10.21 percent rate of return on an original cost rate base ("OCRB") of \$27,279,072. The Company proposes to use OCRB as its fair value rate base.

Staff is revising its surrebuttal position filed on February 7, 2014. Staff is also providing some additional information regarding the vintage year versus group methods of depreciation. Staff recommends a revenue increase of \$1,354,153 or 15.02 percent over the test year revenues of \$9,014,985 to \$10,369,138. The Staff recommended revenue increase would produce an operating income of \$2,115,266 for a 7.90 percent rate of return on a Staff adjusted OCRB of \$26,775,518.

Staff amends the specific issues listed below that were discussed in previous testimonies.

1. Accumulated Depreciation on Post Test Year Plant – Staff recognized one half year of accumulated depreciation on post-test year plant previously recommend by Staff.
2. Incentive Compensation and Contributions and Dues – Staff updates its previous adjustment to include the full amount of disallowance accepted by the Company in its rebuttal testimony.
3. Working Capital – Staff updates the Company's Working Capital allowance to remove required bank balances required by existing indebtedness that is expected to be refinanced before the conclusion of this proceeding. The proposed replacement debt does not require bank balances.
4. Depreciation and Depreciation Methods – Staff continues to recommend vintage year depreciation but has updated its calculation. Staff also provides some additional information for consideration.

1 **INTRODUCTION**

2 **Q. Please state your name, occupation, and business address.**

3 A. My name is Gerald Becker. I am an Executive Consultant III employed by the Arizona  
4 Corporation Commission ("Commission") in the Utilities Division ("Staff"). My business  
5 address is 1200 West Washington Street, Phoenix, Arizona 85007.  
6

7 **Q. Are you the same Gerald Becker who previously submitted direct and surrebuttal**  
8 **testimony in this case?**

9 A. Yes, I am.  
10

11 **PURPOSE OF AMENDED SURREBUTTAL TESTIMONY**

12 **Q. What is the purpose of your surrebuttal testimony in this proceeding?**

13 A. The purpose of my surrebuttal testimony in this proceeding is to reflect accumulated  
14 depreciation on post-test year plant, update Staff's recommended disallowance regarding  
15 incentive compensation and contributions and dues, and working capital. Staff is also  
16 providing some additional information regarding vintage year versus group depreciation  
17 methods.  
18

19 **Q. Do you attempt to address every issue discussed in your previous testimonies?**

20 A. No. I limit my discussion to certain issues as outlined below. I rely on my direct and  
21 surrebuttal testimonies unless modified by this amended surrebuttal testimony.  
22

23 **SUMMARY OF RECOMMENDED REVENUES**

24 **Q. Please summarize Staff's recommended revenue.**

25 A. Staff recommends a revenue increase of \$1,354,153 or 15.02 percent over the test year  
26 revenues of \$9,014,985 to \$10,369,138. The Staff recommended revenue increase would



1 produce an operating income of \$2,115,266 for a 7.90 percent rate of return on a Staff  
2 adjusted OCRB of \$26,775,518. (In Staff's surrebuttal testimony Staff recommended a  
3 revenue increase of \$1,318,719 or 14.63 percent over the test year revenues of \$9,014,985  
4 to \$10,333,705 for a 7.90 percent rate of return on a Staff adjusted OCRB of  
5 \$27,076,778.)  
6

7 **RATE BASE**

8 **Q. Please summarize Staff's new adjustments to Chaparral City Water Company's**  
9 **("CCWC" or "Company") rate base shown on Surrebuttal Schedule GWB-3.**

10 **A.** Staff recommends an increase of \$76,988 to rate base for accumulated depreciation related  
11 to post-test year plant, a reduction of \$490,363 to accumulated depreciation to reflect  
12 Staff's recalculation of accumulated depreciation for Utility Plant in Service ("UPIS") at  
13 December 31, 2012, as shown on Amended Surrebuttal Schedules GWB-4 and GWB-7.  
14 Staff also recommends a decrease of \$780,673 to working capital as shown on Amended  
15 Surrebuttal Schedule GWB-9.  
16

17 *Rate Base Adjustment No. 2 – Post-Test Year Plant (Accumulated Depreciation)*

18 **Q. Please describe the change to accumulated depreciation that Staff is recommending.**

19 **A.** In Surrebuttal Schedules GWB-4 and GWB-6, Staff recommended post-test year plant in  
20 the amount of \$585,474 but did not recognize any associated accumulated depreciation.  
21 Staff recommends an increase of \$76,988 to accumulated depreciation to reflect one half  
22 year of accumulated depreciation on post-test year plant, as shown on Amended  
23 Surrebuttal Schedule GWB-4.  
24

1 **Q. What is Staff's recommendation for accumulated depreciation related to post-test**  
2 **year plant?**

3 A. Staff recommends an increase of \$76,988 to accumulated depreciation, as shown on  
4 Staff's Amended Surrebuttal Schedule GWB-4.

5  
6 *Rate Base Adjustment No. 3 – UPIS and Accumulated Depreciation*

7 **Q. Has the Company submitted a revised Schedule E-5?**

8 A. Yes, the Company has submitted a revised Schedule E-5 supporting its UPIS amount with  
9 corrected amounts by the National Association of Regulatory Utility Commissioners  
10 ("NARUC") account numbers. Staff has incorporated the Company's revised schedule on  
11 Amended Surrebuttal Schedule GWB-4, column [A]. The UPIS component of rate base  
12 adjustment No. 3 is no longer necessary. Rate base adjustment No. 3 reduces accumulated  
13 depreciation by \$490,363 to reflect the accumulated balance per Staff roll forward of  
14 UPIS and Accumulated Depreciation since the last rate case. See discussion below and  
15 Attachment A.

16  
17 The Company's revised E-5 also reflects its storage tanks in account 330.1 and  
18 reclassification<sup>1</sup> from capstone account 330 is no longer necessary.

19  
20 *Rate Base Adjustment No. 5 – Working Capital*

21 **Q. Please describe the change to working capital that Staff is recommending.**

22 A. At the present time, the Company has indebtedness that requires a bank balance of  
23 \$780,763. On March 1, 2013, the Company filed an application to refinance this debt in  
24 Docket No. W-02113A-13-0047. On February 5, 2014, Staff filed a report recommending  
25 approval of authority to incur debt to re-finance the existing debt, subject to certain

---

<sup>1</sup> Surrebuttal rate base adjustment no. 1.

1 conditions. In response to a Staff data request, the Company indicates that the  
2 replacement debt will not require bank balances.

3  
4 Since the replacement debt is expected to be in place by the time rates become effective in  
5 this proceeding, Staff recommends the removal of bank balances from the working capital  
6 calculation, as shown on Amended Surrebuttal Schedule GWB-4 and GWB-9.

7  
8 **OPERATING INCOME**

9 *Operating Income Adjustment No. 2 – Incentive Compensation and Contributions and Dues*

10 **Q. Please describe the change to incentive compensation and contributions and dues**  
11 **working capital that Staff is recommending.**

12 **A.** Staff is updating its recommended disallowance to reflect the \$57,921 agreed to by the  
13 Company in its rebuttal testimony, as opposed the \$17,721 that had been disclosed by the  
14 Company in its a response to a prior data request. This increases Staff recommended  
15 disallowance from \$107,238 per Surrebuttal Schedule GWB-10 and GWB-13 to \$147,438  
16 as shown in Amended Surrebuttal Schedule GWB-10 and GWB-13.

17  
18 **DEPRECIATION EXPENSE AND METHODOLOGIES**

19 **Q. Does Staff have additional comments regarding the disagreement over the**  
20 **appropriate depreciation expense methodology?**

21 **A.** Yes. In the prior rate proceeding, there was apparently no known disagreement regarding  
22 the depreciation methodology. A review of schedules supporting the depreciation expense  
23 in the prior proceeding indicates no recognition of fully depreciated plant, and to the  
24 extent that no fully depreciated plant existed in the prior case, the Commission effectively  
25 authorized rates based on the group methodology and approved rates which would have  
26 resulted in higher depreciation expense than the vintage year method. Accordingly, the

1 accumulated depreciation reserve captured method used in the rate base in this proceeding  
2 should be calculated using the group method.  
3

4 **Q. Please explain the method used to calculate accumulated depreciation.**

5 A. Accumulated depreciation is an amount used to reflect amounts recovered through  
6 depreciation, net of any retirements or adjustments, and is based upon depreciation rates  
7 and methodologies whether expressed or implied, in prior proceedings and applied to the  
8 UPIS approved in the last case adjusted for additions and retirements since the prior  
9 proceeding.  
10

11 **Q. Does the method used to calculate accumulated depreciation require the continued  
12 use of that method to calculate depreciation expense?**

13 A. No. As more fully described above, accumulated depreciation is a "running balance" used  
14 as one of the components to calculate rate base in the current proceeding. In contrast,  
15 depreciation expense is calculated prospectively by applying depreciation rates to the plant  
16 amounts as would be approved in the current proceeding, subject to the methodology that  
17 may be specified. Similar to changes in depreciation rates since prior proceedings, the  
18 depreciation methodology can also be changed on a prospective basis.  
19

20 **Q. Please describe the treatment of changes in depreciation rates and whether changes  
21 in depreciation methodology are similar to changes in depreciation rate since the last  
22 proceeding?**

23 A. As more fully described above, the rates (and methodologies) approved in a prior  
24 proceeding are used to calculate accumulated depreciation in the current case.  
25 Depreciation rates may be revised in any current proceeding, used to calculate  
26 depreciation expense in that proceeding, and later used to calculate the depreciation rate in

1 a future case. Similar to changes in depreciation rates, a different depreciation  
2 methodology may be adopted and used to calculate depreciation expense and accumulated  
3 depreciation balances in a future proceeding.  
4

5 **Q. Did Staff recalculate accumulated depreciation using the group method as applied**  
6 **since the last rate case?**

7 A. Yes. Staff recalculated accumulated depreciation and determined that accumulated  
8 depreciation would decrease from \$25,734,123 to \$25,320,748, or by a net of \$413,375,  
9 with a corresponding increase to rate base. The accumulated depreciation of \$25,320,748  
10 includes \$25,243,760 on plant actually in service at December 31, 2012, plus \$76,988 for  
11 one half year of accumulated depreciation on post-test year plant, for a total of  
12 \$25,320,748. The accumulated depreciation of \$25,243,760 on plant actually in service at  
13 December 31, 2012 is supported by Staff's roll forward of UPIS and Accumulated  
14 Depreciation balances as shown on Attachment A.  
15

16 **Q. Did the roll forward as shown on Attachment A identify any amounts of fully**  
17 **depreciated plant to be considered when calculating Depreciation Expense in this**  
18 **proceeding?**

19 A. Yes. Based on its review of the roll forward, Staff is concerned about two accounts,  
20 Account 311, Pumping Equipment, and Account 341, Transportation Equipment.  
21

22 **Q. Please provide an overview of account 311, Pumping Equipment.**

23 A. As shown on attachment A, the roll forward begins with UPIS balance of \$1,588,246 as of  
24 December 31, 2006 and accumulated depreciation of \$881,086 as of December 31, 2006  
25 for account 311, Pumping Equipment. As of December 31, 2012, the UPIS balance and  
26 accumulated depreciation balances were \$4,150,661 and \$3,502,552, respectively.

1 Subsequent to December 31, 2006, the Company's only retirements to account 311 were  
2 \$27,624 and \$20,955, in 2007 and 2008, respectively. Staff assigned these retirements to  
3 2006 vintage year plant, and calculated the resulting UPIS balance of 2006 vintage year  
4 plant of \$1,539,667 as of December 31, 2012.

5  
6 The Company also recorded additions of \$1,211,840, \$804,971, \$468,725, \$37,782, and  
7 \$87,676 in 2007, 2008, 2009, 2011, and 2012, respectively. These additions have not  
8 been adjusted since being added and reflect the vintage year amount assigned to each year.  
9 A vintage year composition of the ending UPIS balance of \$4,150,661 is:

10		
11	2006	\$1,539,667
12	2007	\$1,211,840
13	2008	\$ 804,971
14	2009	\$ 468,725
15	2011	\$ 37,782
16	2012	<u>\$ 87,676</u>
17	Total	\$4,150,661
18		

19 **Q. Please explain Staff's concern regarding account 311, Pumping Equipment.**

20 **A.** For this account, Staff's concern is limited to the 2006 vintage year plant only. Staff is not  
21 concerned with the 2007 vintage year and later vintage year plant because account 311  
22 bears a 12.5 percent depreciation rate which reflects an eight year life. Since there are  
23 only six years between the test year in this proceeding and the test year in the prior  
24 proceeding, the Company has not had an opportunity to fully recover its 2007 vintage year  
25 and later vintage year plant.

1 Regarding its 2006 vintage year plant, the Company has fully recovered this plant. As  
2 shown on attachment A, the roll forward begins with UPIS and accumulated depreciation  
3 balances at December 31, 2006 for account 311, Pumping Equipment, of \$1,588,246 and  
4 \$881,086, respectively, as approved in Decision No. 71308. The accumulated  
5 depreciation balance of \$881,086 divided by \$1,588,246 indicates that 55.5 percent of the  
6 plant had been recovered, as of the end of the prior test year. Using the 6 year period  
7 between test years, the Company records an additional 6 years of depreciation expense at  
8 12.5 percent per year, or 75 percent. Adding the 75 percent to the 55.5 percent recovered  
9 as of the last proceeding, the Company has had the opportunity to recover 130.5 percent of  
10 its investment. For these reasons, Staff recommends that the recording of depreciation  
11 cease on the Company's 2006 vintage year plant in account 311, Pumping Equipment.

12 *Are you aware of*  
13 Q. ~~Is there any~~ possible imprecision in the above described calculations?

14 A. Yes. As discussed above, the Company's only retirements subsequent to December 31,  
15 2006 in account 311 were \$27,624 and \$20,955, in 2007 and 2008, respectively, and the  
16 resulting UPIS balance of 2006 vintage year plant of \$1,539,667 as of December 31, 2012.  
17 While it is conceivable that plant retired in 2007 or 2008 was installed in either 2007 or  
18 2008, Staff had not requested the specific installation date of the plant being retired. Staff  
19 assigns these retirements to the oldest vintage life plant in 2006, thereby reducing the  
20 amount of fully depreciated plant subject to exclusion in its calculation of depreciation  
21 expense. Accordingly, this practice does not harm the Company while providing a  
22 reasonable amount of plant to be treated as fully depreciated.  
23

1 **Q. Please provide an overview of account 341, Transportation Equipment.**

2 A. Account 341, Transportation Equipment – As shown on attachment A, the roll forward  
3 begins with UPIS balance of \$535,315 and an accumulated depreciation of \$60,636, both  
4 as of December 31, 2006. As of December 31, 2012, the UPIS balance and accumulated  
5 depreciation balances were \$417,333 and \$487,368, respectively.

6  
7 As shown on Attachment A, the roll forward of the 2006 vintage year plant subsequent to  
8 December 31, 2006, indicates retirements of \$55,375, \$45,865, \$20,243, and \$77,328 in  
9 2007, 2008, 2009, 2011, and 2012, respectively, for total retirements of \$198,811, offset  
10 by adjustments of \$31,522 in 2008 and \$(33,031) in 2010. Staff assigned these  
11 retirements to 2006 vintage year plant, and calculated the resulting UPIS balance for 2006  
12 vintage year plant of \$334,995 as of December 31, 2012.

13  
14 2006 Vintage Balance \$ 535,315  
15 Retirements, above \$(198,811) Assigned to 2006 vintage  
16 Subtotal \$ 336,504  
17 2008 Adjustment \$ 31,522 Assigned to 2006 vintage  
18 2010 Adjustment \$(33,031) Assigned to 2006 vintage  
19 Balance 2006 Vintage \$ 334,995

20  
21 The Company also recorded additions of \$65,258 and \$17,080 <sup>W</sup> 2007 and 2008,  
22 respectively, for a total UPIS balance of \$417,333, as of December 31, 2012 and  
23 excluding post-test year plant of \$9,637. A vintage year composition of the actual ending  
24 UPIS balance of \$417,333 is:



1	2006	\$ 334,995	
2	2007	\$ 65,258	
3	2008	\$ 17,080	
4	Total	\$ 417,333	(actually in service at December 31, 2012)
5	2013	\$ <u>9,637</u>	post-test year plant
6	Total	\$ 426,970	(total amount of UPIS for account 341)

7

8 **Q. Please explain Staff's concern regarding account 341, Transportation Equipment.**

9 A. For this account, Staff's concern is limited to the 2006 and 2007 vintage year plant  
10 actually in service at December 31, 2012, or \$400,253. Staff is concerned with the plant  
11 of these vintage years because account 341 bears a 20.0 percent depreciation rate, which  
12 reflects a five year life. Staff is not recommending exclusion of 2008 vintage year plant,  
13 since there are only 5 years between the date the plant was added and the test year in this  
14 proceeding, the Company has not had an opportunity to fully recover the costs of its 2008  
15 vintage year<sup>2</sup> and later vintage year plant.

16

17 The cessation of depreciation expense on vintage year 2006 and 2007 plant is also  
18 supported by an analysis of the plant and accumulated depreciation roll forward. The roll  
19 forward begins with UPIS balance of \$535,315 and an accumulated depreciation of  
20 \$60,636, both as of December 31, 2006 for account 341, as approved in Decision No.  
21 71308. The accumulated depreciation balance of \$60,636 divided by \$535,315 indicates  
22 that approximately 11.3 percent of the plant had been recovered, as of the end of the prior  
23 test year. Using the 6 year period between test years, the Company has recorded an  
24 additional 6 years of depreciation expense at 20.0 percent per year, or 120 percent.  
25 Adding the 120 percent to the 11.3 percent recovered as of the last proceeding, the

---

<sup>2</sup> One half year convention used in year added, thus, only 4 ½ years as of December 31, 2012.

1 Company has recorded 131.3 percent of its investment as accumulated depreciation. For  
2 these reasons, Staff recommends that the cessation of depreciation cease on the  
3 Company's 2006 vintage year plant in account 341, Transportation Equipment.

4  
5 Regarding 2007 vintage year plant, the Company has recorded one half year depreciation  
6 in 2007 and 5 years of depreciation for the years 2008 through 2012, for a total of 5 and  
7 one-half years, or \$71,784 of accumulated depreciation, as shown on Attachment A. For  
8 these reasons, Staff also recommends that the depreciation cease on \$65,257 of 2007  
9 vintage year plant in account 341, Transportation Equipment, also shown on Attachment  
10 A.

11 *are you aware of*  
12 **Q. Is there any possible imprecision in the above described calculations?**

13 **A.** Yes. As discussed above, the Company has retired plant subsequent to December 31,  
14 2006 in account 341. While it is conceivable that plant retired in 2007 through 2012 had  
15 been installed after 2006, Staff had not requested the specific installation dates of the plant  
16 being retired during 2007 through 2012. Staff assigns these retirements to the oldest  
17 vintage life plant (2006), thereby reducing the amount of fully depreciated plant subject to  
18 exclusion in its calculation of depreciation expense. Accordingly, this practice does not  
19 harm the Company while providing a reasonable amount of plant to be treated as fully  
20 depreciated.

21  
22 **Q. In Staff's view, has the Company over recovered on certain items of plant?**

23 **A.** Yes, as indicated on Attachment A, the Company has recovered \$1,998,885 on its 2006  
24 vintage year plant of \$1,539,667 in account 311, Pumping Equipment. In account 341,  
25 Transportation Equipment, the Company has recovered \$400,212 on \$334,995 of vintage  
26 2006 plant, and \$71,784 on \$65,258 of 2007 vintage year plant.

1 **Q. Please describe Staff's recommended Depreciation Expense for account 311,**  
2 **Pumping Equipment and account 341, Transportation Equipment.**

3 A. As shown on Amended Surrebuttal Schedule GWB-16, Staff recommends depreciation  
4 expense of \$326,374 for account 311, Pumping Equipment and \$5,343 for account 341,  
5 Transportation Equipment. Depreciation expense of \$326,374 on account 311, Pumping  
6 Equipment, is based the total plant balance of \$4,150,661 shown in Column [A] of  
7 Amended Surrebuttal Schedule GWB-16, less \$1,539,667 of 2006 vintage year plant  
8 shown as fully depreciated in Column [B] of Amended Surrebuttal Schedule GWB-16, for  
9 a net depreciable amount of \$2,610,994 in Column [C] of Amended Surrebuttal Schedule  
10 GWB-16. Applying a 12.5 percent depreciation rate to a net depreciable amount of  
11 \$2,610,994 results in depreciation expense of \$326,374.

12  
13 Similarly, depreciation expense of \$5,343 on account 341, Transportation Equipment, is  
14 based on the total plant balance of \$426,970 discussed above and shown in Column [A],  
15 less \$400,253 of 2006 and 2007 vintage year plant shown as fully depreciated in Column  
16 [B], for a net depreciable amount of \$26,717<sup>3</sup> on which a 20.0 percent depreciation rate is  
17 applied, for depreciation expense of \$5,343<sup>4</sup>.

18  

---

<sup>3</sup> Expressed differently, the depreciable balance of \$26,717 consists of \$17,080 of 2008 vintage year plant, plus \$9,637 of post-test year plant.

<sup>4</sup> Under the group method proposed by the Company, depreciation expense for account 341 is estimated at \$85,394, based on \$426,970 times 20 percent depreciation rate and based on net UPIS of \$26,717 for account 341.

1   **Q.   Setting aside the fact that the accounting and regulatory communities recognize that**  
2       **there may be more than one acceptable method for calculating depreciation expense,**  
3       **is it reasonable for a regulated utility to be placed in a position where over recovery**  
4       **of its plant investments is possible simply because of the method used to calculate**  
5       **annual depreciation expense?**

6   **A.   No that is not reasonable. A regulated utility would not be allowed to employ a cost**  
7       **allocation methodology that would allow the company to over-recover other expenses,**  
8       **such as wages and salaries. It certainly would not be proper for such a regulated utility to**  
9       **over-recover expense just because it might take more administrative time to accurately**  
10      **track wages and salaries so as to not over recover this or any other expense. Depreciation**  
11      **is an expense just as salaries and wages. It does not seem logical for CCWC to argue that**  
12      **when it recovers depreciation expense it is proper to over-recover its actual investment**  
13      **simply because it would be more time consuming or administratively burdensome to**  
14      **undertake the level of accounting necessary to cease booking depreciation once the**  
15      **underlying investment has been fully recovered.**

16  
17      The reality is that if the actual life of the underlying asset is longer than the estimated asset  
18      life used for depreciation then the depreciation should be adjusted accordingly, otherwise  
19      these assets are being over-depreciated, to the detriment of ratepayers.

20  
21   **Q.   Is there evidence of over recovery in this case?**

22   **A.   Yes. See discussion above and the activity for accounts 311 Pumping Equipment and**  
23       **account 341, Transportation Equipment, as shown on Attachment A.**

24

1     **Q.     Is Staff recommending that the over recovered amounts be refunded?**

2     A.     No. Staff attributes the over recovery to instances of regulatory lag working in favor of  
3           the Company. Staff, however, recommends that the over recovery be discontinued with  
4           this proceeding.

5

6     **Q.     Is Staff aware of any prohibitions to prevent the adoption of vintage year method?**

7     A.     No. Staff reviewed the 1996 version of the NARUC Uniform System of Accounts  
8           ("USOA"), an excerpt of which is included as Attachment B. This guides states,

9

10                 "...Depreciation shall be accrued on a straight-line remaining life basis or  
11                 straight-line basis, *as required by the Commission...*" [emphasis added]

12

13                 Based upon the above, Staff concludes that the Commission may set rates using a vintage  
14                 year depreciation method.

15

16     **Q.     Does this conclude your Amended Surrebuttal Testimony?**

17     A.     Yes, it does.

**Chaparral City Water Company**  
Docket No. W-02113A-13-0118  
Test Year Ended December 31, 2012

**AMENDED SURREBUTTAL TESTIMONY OF GERALD BECKER**

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Chaparral City Water Company  
Docket No. W-02113A-13-0118  
Test Year Ended December 31, 2012

Schedule GWB-1  
AMENDED SURREBUTTAL

REVENUE REQUIREMENT

LINE NO.	DESCRIPTION	(A) COMPANY ORIGINAL COST**	(B) COMPANY FAIR VALUE	(C) STAFF ORIGINAL COST	(D) STAFF FAIR VALUE
1	Adjusted Rate Base	\$ 27,279,072	\$ 27,279,072	\$ 26,775,518	\$ 26,775,518
2	Adjusted Operating Income (Loss)	\$ 889,596	\$ 889,596	\$ 1,294,167	\$ 1,294,167
3	Current Rate of Return (L2 / L1)	3.26%	3.26%	4.83%	4.83%
4	Required Rate of Return	10.21%	10.21%	7.90%	7.90%
5	Required Operating Income (L4 * L1)	\$ 2,784,249	\$ 2,784,249	\$ 2,115,266	\$ 2,115,266
6	Operating Income Deficiency (L5 - L2)	\$ 1,894,653	\$ 1,894,653	\$ 821,099	\$ 821,099
7	Gross Revenue Conversion Factor	1.658709	1.658709	1.649195	1.649195
8	Required Revenue Increase (L7 * L6)	\$ 3,142,679	\$ 3,142,679	<b>\$ 1,354,153</b>	<b>\$ 1,354,153</b>
9	Adjusted Test Year Revenue	\$ 9,014,985	\$ 9,014,985	\$ 9,014,985	\$ 9,014,985
10	Proposed Annual Revenue (L8 + L9)	\$ 12,157,664	\$ 12,157,664	\$ 10,369,138	\$ 10,369,138
11	Required Increase in Revenue (%)	34.86%	34.86%	15.02%	15.02%
12	Rate of Return on Common Equity (%)	11.05%	11.05%	9.60%	9.60%

\*\* At Hearing, Co amended its Schedule E-5  
causing its rate base to increase by  
\$9,751 from \$27,269,321 to \$27,279,072

References:

Column (A): Company Schedule A-1

Column (B): Company Schedule A-1

Column (C): Staff Schedules GWB-2, GWB-3, and GWB-10

GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	(A)	(B)	(C)
<u>Calculation of Gross Revenue Conversion Factor:</u>				
1	Revenue	100.0000%		
2	Uncollectible Factor (Line 11)	0.5492%		
3	Revenues (L1 - L2)	99.4508%		
4	Combined Federal and State Income Tax and Property Tax Rate (Line 23)	38.8152%		
5	Subtotal (L3 - L4)	60.6356%		
6	Revenue Conversion Factor (L1 / L5)	1.649185		
<u>Calculation of Uncollectible Factor:</u>				
7	Unity	100.0000%		
8	Combined Federal and State Tax Rate (Line 17)	38.2900%		
9	One Minus Combined Income Tax Rate (L7 - L8)	61.7100%		
10	Uncollectible Rate	0.8900%		
11	Uncollectible Factor (L9 * L10)		0.54922%	
<u>Calculation of Effective Tax Rate:</u>				
12	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%		
13	Arizona State Income Tax Rate	6.5000%		
14	Federal Taxable Income (L12 - L13)	93.5000%		
15	Applicable Federal Income Tax Rate (Line 44)	34.0000%		
16	Effective Federal Income Tax Rate (L14 x L15)	31.7900%		
17	Combined Federal and State Income Tax Rate (L13 + L16)		38.2900%	
<u>Calculation of Effective Property Tax Factor</u>				
18	Unity	100.0000%	6.968%	
19	Combined Federal and State Income Tax Rate (L17)	38.2900%		
20	One Minus Combined Income Tax Rate (L18-L19)	61.7100%		
21	Property Tax Factor (GWB-18, L25)	0.8510%		
22	Effective Property Tax Factor (L20*L21)		0.5252%	
23	Combined Federal and State Income Tax and Property Tax Rate (L17+L22)			38.8152%
24	Required Operating Income (Schedule GWB-1, Line 5)	\$ 2,115,286		
25	Adjusted Test Year Operating Income (Loss) (Schedule GWB-10, Line 36)	\$ 1,294,167		
26	Required Increase in Operating Income (L24 - L25)		\$ 821,099	
27	Income Taxes on Recommended Revenue (Col. (C), L48)	\$ 963,598		
28	Income Taxes on Test Year Revenue (Col. (A), L48)	\$ 454,120		
29	Required Increase in Revenue to Provide for Income Taxes (L27 - L28)		\$ 509,478	
30	Required Revenue Increase (Schedule GWB-1, Line 8)	\$ 1,354,153		
31	Uncollectible Rate (Line 10)	0.8900%		
32	Uncollectible Expense on Recommended Revenue (L30 * L31)	\$ 12,052		
33	Adjusted Test Year Uncollectible Expense - N/A	\$ -		
34	Required Increase in Revenue to Provide for Uncollectible Exp.		\$ 12,052	
35	Property Tax with Recommended Revenue (GWB-18, Line 21)	\$ 243,735		
36	Property Tax on Test Year Revenue (GWB-18, Col A, L19)	\$ 232,211		
37	Increase in Property Tax Due to Increase in Revenue (L35-L36)		\$ 11,524	
38	Total Required Increase in Revenue (L26 + L29 + L34 + L37)		\$ 1,354,153	

	(A) Test Year	(B)	(C) Staff Recommended
39	Revenue (Sch GWB-10, Col.(C) L4, GWB-1, Col. (D), L10)		\$ 10,369,138
40	Operating Expenses Excluding Income Taxes		\$ 7,290,275
41	Synchronized Interest (L53)		\$ 562,286
42	Arizona Taxable Income (L39 - L40 - L41)		\$ 2,516,578
43	Arizona State Income Tax Rate	6.5000%	6.5000%
44	Arizona Income Tax (L42 x L43)	\$ 77,090	\$ 163,578
45	Federal Taxable Income (L42 - L44)	\$ 1,108,910	\$ 2,353,000
46	Federal Tax	\$ 377,030	\$ 800,020
47	Total Federal Income Tax	\$ 377,030	\$ 800,020
48	Combined Federal and State Income Tax (L43 + L47)	\$ 454,120	\$ 963,598

50 Effective Tax Rate

Calculation of Interest Synchronization:

51	Rate Base (Schedule GWB-3, Col. (C), Line 18)
52	Weighted Average Cost of Debt
53	Synchronized Interest (L50 X L51)

N/A
\$ 26,775,518
2.1000%
\$ 562,286



**RATE BASE - ORIGINAL COST**

LINE NO.	(A) COMPANY AS FILED	(B) STAFF ADJUSTMENTS	(C) STAFF AS ADJUSTED
1	Plant in Service	\$ 69,511,815	\$ 70,097,289
2	Less: Accumulated Depreciation	25,734,123	25,320,748
3	Net Plant in Service	\$ 43,777,692	\$ 44,776,541
<u>LESS:</u>			
4	Contributions in Aid of Construction (CIAC)	\$ 14,991,871	\$ 14,991,871
5	Less: Accumulated Amortization	2,529,950	2,529,950
6	Net CIAC	12,461,921	12,461,921
7	Advances in Aid of Construction (AIAC)	4,008,916	4,008,916
8	Customer Meter Deposits	1,950	1,950
9	Deferred Income Taxes	1,271,696	1,271,696
10	FHSD Settlement	449,580	449,580
<u>ADD:</u>			
11	Working Capital Allowance	1,009,341	114,836
12	Deferred Debits	686,104	78,206
13	<b>Original Cost Rate Base</b>	<u>\$ 27,279,072</u>	<u>\$ 26,775,518</u>

References:

Column (A), Company Schedule B-2

Column (B): Schedule GWB-4

Column (C): Column (A) + Column (B)

SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS

LINE NO.	ACCT. NO.	DESCRIPTION	[A] COMPANY AS AMENDED	[B] Reclassification ADJ #1 GWB-5	[C] Post Test Year Plant ADJ #2 GWB-6	[E] UPIS & ACC. DEPREC. ADJ #3 GWB-7	[F] ADFUC Deferral ADJ #4 GWB-8	[G] Working Capital ADJ #5 GWB-9	[H] STAFF ADJUSTED
PLANT IN SERVICE:									
1	303	Other Intangible Plant	0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2	303	Land and Land Rights	1,554,591						1,554,591
3	304	Structures and Improvements - Pumping							-
4	304	Structures and Improvements - Treatment							-
5	304	Structures and Improvements - T & D							-
6	304	Structures & Improvements - General	1,795,309		168,610	-			1,963,919
7	305	Collecting and Impounding Reservoirs	6,970			-			6,970
8	307	Wells	953,001		(793,374)				159,627
9	309	Supply Mains	0						-
10	311	Pumping Equipment & Other Pumping Plant	4,280,661		(130,000)	-			4,150,661
11	320.1	Water Treatment Equipment	6,950,895		741,809	-			7,692,704
12	330	Reservoirs and Tanks		-					-
13	330.1	Storage Tanks	9,445,000		(575,439)	-			8,869,561
14	331	Transmission and Distribution Mains	24,727,626		838,725	-			25,566,351
15	333	Services	11,329,034		150,079	-			11,479,113
16	334	Meters	3,219,624		(181,450)	-			3,038,174
17	335	Hydrants	2,050,005		45,030	-			2,095,035
18	339	Other Transmission & Distribution Plant	2,142,685		(22,842)	-			2,119,843
19	339	Other Transmission & Distribution Plant							-
20	340	Office Furniture and Equipment, Computers,	305,068						305,068
21	341	Transportation Equipment	426,581		389	-			426,970
22	343	Power Operated Equipment & Tool, Shop an	222,438		189,169				411,607
23	345	Power Operated Equipment	0						-
24	346	Communication Equipment	102,327		154,768				257,095
25	347	Other General Plant				-			-
26		Misc Adj/ Reconciling Item							-
27	Total Plant in Service		69,511,815	-	585,474	-			70,097,289
28									
29	Accumulated Depreciation		25,734,123		76,988	(490,363)			25,320,748
30	Net Plant in Service		\$ 43,777,692	\$ -	\$ 508,486	\$ 490,363	\$ -	\$ -	\$ 44,776,541
31									
32	LESS:								
33	Contributions in Aid of Construction (CIAC)		\$ 14,991,871						\$ 14,991,871
34	Less: Accumulated Amortization		2,529,950						2,529,950
35	Net CIAC (L63 - L64)		12,461,921						12,461,921
36	Advances in Aid of Construction (AIAC)		4,008,916						4,008,916
37	Customer Meter Deposits		1,950						1,950
38	Deferred Income Taxes		1,271,896						1,271,896
39	FHSD Settlement		449,580						449,580
40	ADD:								
41	Working Capital Allowance		1,009,341					(894,505)	114,836
42	Deferred Debits		686,104				(607,898)		78,206
43	Original Cost Rate Base		\$ 27,279,072	\$ -	\$ 508,486	\$ 490,363	\$ (607,898)	\$ (894,505)	\$ 26,775,518

Chaparral City Water Company  
Docket No. W-02113A-13-0118  
Test Year Ended December 31, 2012

Schedule GWB-5  
AMENDED SURREBUTTAL

**RATE BASE ADJUSTMENT #1 RECLASSIFICATION (THIS ADJUSTMENT NO LONGER NECESSARY)**

LINE NO.	ACCT NO.	Description	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	330 330.1	Reservoirs and Tanks Storage Tanks			

**References:**

Column [A] : Amount reflected in Acct. 330, Reservoirs and Tanks

Column [B] , Col [C] less Col [A]

Column [C] , Per testimony GWB

RATE BASE ADJUSTMENT #2 POST TEST YEAR PLANT

LINE NO.	ACCT NO. & DESCRIPTION OF PROJECT	[A] ORIGINAL PROJECT ESTIMATES	[B] STAFF AS ADJUSTED	[C] STAFF ADJUSTMENT
1	304500 Office & Ops Center	-	168,610	168,610
2	311000 Electrical Annual Program	130,000	-	(130,000)
3	307000 Well #10 Arsenic Treatment	793,374		(793,374)
4	320.1 Well #10 Arsenic Treatment	-	1,077,467	1,077,467
5	Subtotal (Net Inc.) to Acct. 320.1	-	1,077,467	1,077,467
5	320000 Shea WTP Filter Media	59,369	73,035	13,666
6	320000 Shea WTP Improvements	350,000	676	(349,324)
7	Total Adj to Acct 320.1	409,369	1,151,178	741,809
8	330000 Reservoir #2 Rehabilitation	595,860	670,421	74,561
9	330000 Lotus Reservoir 3	-	-	-
10	330000 Crestview Reservoir 7	-	-	-
11	330000 2013 Recurring Projects - Facilities	650,000	-	(650,000)
12	Total Adj to 330.1	1,245,860	670,421	(575,439)
13	331001 Distribution System	53,577	66,964	13,387
14	331001 Distribution Improvements	300,000	1,125,338	825,338
15	331001 Misc system improvements	-	-	-
16	331001 Main breaks	-	-	-
17	331001 Manholes replaced	-	-	-
18	331001 Valves new	-	-	-
19	331001 Valves replaced	-	-	-
20	331001 Mains scheduled	-	-	-
21	Total Adj to Acct 331.1	353,577	1,192,302	838,725
22	333000 Services Replaced	410,000	560,079	150,079
23	334100 Meters Replaced	300,000	118,550	(181,450)
24	335000 Hydrants Replaced	10,000	55,030	45,030
25	339600 Comprehensive Planning Study (Chloramination)	132,558	109,716	(22,842)
26	341100 Vehicles	9,248	9,637	389
27	343000 Tools & Equipment	31,777	220,946	189,169
28	343000 Tools & Equipment	-	-	-
29	Total Adj to Acct. 343	31,777	220,946	189,169
30	346000 ESRI Project (GIS)	-	-	-
31	346200 IPT Deployment	59,000	213,768	154,768
32	346200 Scada & Firewall	-	-	-
	Total Adj to Acct. 346	59,000	213,768	154,768
33	347000 Security	-	-	-
34	Comprehensive Planning Study (Well 11 Restoration)	-	-	-
35	Comprehensive Planning Study	-	-	-
36	Reservoir #2 Rehabilitation	-	-	-
37	Reservoir #2 Rehabilitation	-	-	-
38	Developer Funded	-	-	-
39	Totals	3,884,763	4,470,237	585,474

References:

Column [A] : Amount per Company application and response to Staff DR

Column [B] , Col [C] less Col [A]

Column [C] : Amount per Company response to Staff DR and Testimony GWB

RATE BASE ADJUSTMENT #3 UTILITY PLANT IN SERVICE AND ACCUMULATED DEPRECIATION

			[A]	[B]	[C]	[D]	[E]	[F]
Line	Sub.	Description	Company Application E-5 Plant Balance 12/31/2012	Company Subtotal	Staff	Adjustment	Staff Calculated Accum Depreciations	Fully Depreciated
No.	Acct.	Company Application						
1	303100	Other Intangible Plant	-	-	-	-	-	-
2	303600	Land and Land Rights	1,554,591	1,554,591	1,554,591	-	-	-
3	304200	Structures and Improvements - Pumping						
4	304300	Structures and Improvements - Treatment						
5	304400	Structures and Improvements - T & D						
6	304500	Structures & Improvements - General	1,795,309	1,795,309	1,795,309	-	694,767	
7	305000	Collecting and Impounding Reservoirs	6,970	6,970	6,970	-	660	
8	307000	Wells	159,627	159,627	159,627	-	108,329	
9	309000	Supply Mains		-	-	-	-	
10	311000	Pumping Equipment & Other Pumping Plant	4,150,661	4,150,661	4,150,661	-	3,502,552	1,539,667
11	320100	Water Treatment Equipment	6,541,526	6,541,526	6,541,526	-	1,509,048	
12	330000	Reservoirs and Tanks	8,199,140	8,199,140	8,199,140	-	3,046,816	
13	331001	Transmission and Distribution Mains	24,374,049	24,374,049	24,374,049	-	9,606,641	
14	333000	Services	10,919,034	10,919,034	10,919,034	-	2,320,901	
15	334100	Meters	2,919,624	2,919,624	2,919,624	-	2,374,387	
16	335000	Hydrants	2,040,005	2,040,005	2,040,005	-	389,993	
18	339100	Other Transmission & Distribution Plant	2,010,127	2,010,127	2,010,127	-	946,814	
19	340100	Office Furniture and Equipment, Computers	305,068	305,068	305,067	(1)	152,715	
20	341100	Transportation Equipment	417,333	417,333	417,333	-	487,368	417,333
21	343000	Power Operated Equipment & Tool, Shop ar	190,661	190,661	190,662	1	76,075	
22	345000	Power Operated Equipment	-	-	-	-	25	
23	346200	Communication Equipment	43,327	43,327	43,327	-	26,668	
24	347000	Other General Plant		-	-	-	-	
26	Total		\$ 65,627,052	\$ 65,627,052	\$ 65,627,052	\$ -	\$ 25,243,759	\$ 1,957,000
						Attach. A	\$ 25,243,760	
						Diff.	\$ (1)	

Notes:

- Col [A]-[D] Note: The above reflected the corrected E-5 submitted by the Company at hearing. As a result, Staff's reclassification entry in no longer necessary.
- Col [E] Staff Acc. Depreciation Amounts Per Attachment A
- Col [F] Fully Depreciated plant per analysis on Attachment A

Chaparral City Water Company  
Docket No. W-02113A-13-0118  
Test Year Ended December 31, 2012

Schedule GWB-8  
AMENDED SURREBUTTAL

**RATE BASE ADJUSTMENT #4 REVERSAL OF AFUDC AND DEFERRED DEPRECIATION DEFERRAL**

LINE NO.	ACCT NO.	Description	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1		Deferred Debits	607,898	(607,898)	-

References:

Column [A] : Amount reflected on Co Schedule B-2, as part of Deferred Debits

Column [B] , Col [C] less Col [A]

Column [C] , Per testimony GWB

RATE BASE ADJUSTMENT #5 CASH WORKING CAPITAL

Line No.	(A) Description	(B) Proforma Test Year Amount	(C) Revenue Lag (Lead) Days	(D) Expense Lag (Lead) Days	(E) Net Lag (Lead) Days Col. C - Col. D	(F) Lead/Lag Factor Col. E/365	(G) Cash Working Capital Required Col. B * Col. F
5	OPERATING EXPENSES						
6	Labor	\$ 1,024,112	34.93	13.09	21.84	0.05983271	\$ 61,275
7	Purchased Water	1,116,879	34.93	43.67	(8.74)	-0.0239481	(26,747)
8	Fuel & Power	\$ 585,139	34.93	27.86	7.07	0.01936695	11,332
9	Chemicals	\$ 115,182	34.93	(79.22)	114.15	0.31273681	36,022
10	Waste Disposal	\$ 7,113	34.93	41.90	(6.97)	-0.0190988	(136)
11	Intercompany Support Services	\$ 94,150	34.93	29.99	4.94	0.01353134	1,274
12	Corporate Allocation	\$ 352,892	34.93	30.00	4.93	0.01350394	4,765
13	Outside Services	\$ 508,106	34.93	88.00	(53.07)	-0.1454002	(73,879)
14	Group Insurance	\$ 178,067	34.93	12.00	22.93	0.06281901	11,186
15	Pensions	\$ 85,086	34.93	67.98	(33.05)	-0.0905509	(7,705)
16	Insurance Other Than Group	\$ 73,025	34.93	(26.14)	61.07	0.16731216	12,218
17	Customer Accounting	\$ 331,010	34.93	26.53	8.40	0.02301079	7,617
18	Rents	\$ 1,504	34.93		34.93	0.09569572	144
19	General Office Expense	\$ 164,179	34.93	39.69	(4.76)	-0.013044	(2,142)
20	Miscellaneous	\$ 158,553	34.93	(3.22)	38.15	0.10451764	16,572
21	Maintenance Expense	\$ 388,614	34.93	17.28	17.65	0.04835325	18,791
22	Intest Expense <sup>1</sup>	\$ 562,286	34.93	91.25	(56.32)	-0.1543043	(86,763)
23							
24	TAXES						
25	General Taxes-Property <sup>1</sup>	\$ 243,735	34.93	213.96	(179.0294)	(0.4905)	\$ (119,550)
26	General Taxes-Other	\$ 86,320	34.93	3.03	31.8989	0.0874	7,544
27	Income Tax <sup>1</sup>	\$ 963,598	34.93	37.00	(2.0711)	(0.0057)	(5,468)
28	TOTAL	\$ 7,039,552					<u>\$ (133,649)</u>

CASH WORKING CAPITAL REQUIREMENT

<sup>1</sup>At proposed rates.

	Per Co	Per Staff	Adjustment
Cash Working Capital Requirement	\$ (19,817)	\$ (133,649)	\$ (113,832)
Required Bank Balances	780,673	-	(780,673)
Prepayments	248,484	248,484	-
Total Working Capital Allowance	1,009,341	114,835	(894,505)

OPERATING INCOME STATEMENT - TEST YEAR AND STAFF RECOMMENDED

LINE NO.	DESCRIPTION	[A] COMPANY TEST YEAR AS FILED	[B] STAFF TEST YEAR ADJUSTMENTS	[C] STAFF TEST YEAR AS ADJUSTED	[D] STAFF RECOMMENDED CHANGES	[E] STAFF RECOMMENDED
	<b>Revenues</b>	\$ -	\$ -	\$ -	\$ -	\$ -
1	Water Revenues	8,915,656	-	8,915,656	1,354,154	10,269,810
2	Other Revenues	99,329	-	99,329	-	99,329
3		-	-	-	-	-
4	<b>Total Operating Revenues</b>	<u>\$ 9,014,985</u>	<u>\$ -</u>	<u>\$ 9,014,985</u>	<u>\$ 1,354,154</u>	<u>\$ 10,369,138</u>
	<b>Operating Expenses</b>					
5	Labor	\$ 1,024,112	\$ -	\$ 1,024,112	\$ -	\$ 1,024,112
6	Purchased Water	1,065,953	50,926	1,116,879	-	1,116,879
7	Fuel & Power	605,885	(20,746)	585,139	-	585,139
8	Chemicals	119,266	(4,084)	115,182	-	115,182
9	Waste Disposal	7,113	-	7,113	-	7,113
10	Intercompany Support Services	94,150	-	94,150	-	94,150
11	Corporate Allocation	500,330	(147,438)	352,892	-	352,892
12	Outside Services	508,106	-	508,106	-	508,106
13	Group Insurance	178,067	-	178,067	-	178,067
14	Pensions	85,086	-	85,086	-	85,086
15	Regulatory Expense	91,668	-	91,668	-	91,668
16	Insurance Other Than Group	73,025	-	73,025	-	73,025
17	Customer Accounting	318,959	-	318,959	12,052	331,010
18	Rents	1,504	-	1,504	-	1,504
19	General Office Expense	164,179	-	164,179	-	164,179
20	Miscellaneous	158,553	-	158,553	-	158,553
21	Maintenance Expense	388,614	-	388,614	-	388,614
22	Depreciation & Amortization	2,014,048	(329,108)	1,684,940	-	1,684,940
23	General Taxes-Property	251,038	(18,828)	232,210	11,524	243,734
24	General Taxes-Other	86,320	-	86,320	-	86,320
25	Income Taxes	389,412	64,707	454,120	509,478	963,598
26	<b>Total Operating Expenses</b>	<u>\$ 8,125,389</u>	<u>\$ (404,571)</u>	<u>\$ 7,720,819</u>	<u>\$ 533,054</u>	<u>\$ 8,253,872</u>
27	<b>Operating Income (Loss)</b>	<u>\$ 889,596</u>	<u>\$ 404,571</u>	<u>\$ 1,294,167</u>	<u>\$ 821,100</u>	<u>\$ 2,115,266</u>

References:

Column (A): Company Schedule C-1  
Column (B): Schedule GWB 11  
Column (C): Column (A) + Column (B)  
Column (D): Schedules GWB 2, Lines 29, 34 and 37  
Column (E): Column (C) + Column (D)



**SUMMARY OF OPERATING INCOME ADJUSTMENTS - TEST YEAR**

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] Excess Water Loss ADJ #1 GWB-12	[C] Inc. Comp. ADJ #2 GWB-13	[D] Purchased Water Exp ADJ #3 GWB-14	[E] Deprec. Exp ADJ #5 GWB-16	[F] PROPERTY TAXES ADJ #5 GWB-18	[G] Income Taxes ADJ #6 GWB-17	[H] STAFF ADJUSTED
	<b>Revenues</b>								
1	Water Revenues	\$ 8,915,656	-	-	-	-	-	-	8,915,656
2	Other Revenues	99,329	-	-	-	-	-	-	99,329
3	Total Operating Revenues	\$ 9,014,985	\$ -	\$ -	\$ -	\$ -	-	\$ -	\$ 9,014,985
	<b>Operating Expenses</b>								
4	Labor	\$ 1,024,112					\$ -	\$ -	\$ 1,024,112
5	Purchased Water	1,065,953	(39,598)		90,524		-	-	1,116,879
6	Fuel & Power	605,885	(20,746)				-	-	585,139
7	Chemicals	119,266	(4,084)				-	-	115,182
8	Waste Disposal	7,113							7,113
9	Intercompany Support Services	94,150		(147,438)					94,150
10	Corporate Allocation	500,330							352,892
11	Outside Services	508,106							508,106
12	Group Insurance	178,067							178,067
13	Pensions	85,086							85,086
14	Regulatory Expense	91,668							91,668
15	Insurance Other Than Group	73,025							73,025
16	Customer Accounting	318,959							318,959
17	Rents	1,504							1,504
18	General Office Expense	164,179							164,179
19	Miscellaneous	158,553							158,553
20	Maintenance Expense	388,614							388,614
21	Depreciation & Amortization	2,014,048				(329,108)	(18,828)		1,684,940
22	General Taxes-Property	251,038							232,210
23	General Taxes-Other	86,320							86,320
24	Income Taxes	389,412						64,707	454,120
25	Total Operating Expenses	\$ 8,125,389	\$ (64,428)	\$ (147,438)	\$ 90,524	\$ (329,108)	\$ (18,828)	\$ 64,707	\$ 7,720,819
26	Operating Income	\$ 889,596	\$ 64,428	\$ 147,438	\$ (90,524)	\$ 329,108	\$ 18,828	\$ (64,707)	\$ 1,294,167

Chaparral City Water Company  
Docket No. W-02113A-13-0118  
Test Year Ended December 31, 2012

Schedule GWB-12  
AMENDED SURREBUTTAL

**OPERATING INCOME ADJUSTMENT #1 - EXCESS WATER LOSS**

LINE  
NO.

1	One plus allowable water loss	110.00%
2	One plus actual water loss	113.90%
3	Allowable portion	96.58%
4	Disallowable portion	3.42%
5	Power Expense	\$ 605,885
6	Disallowance	20,746
7	Chemical Expense	\$ 119,266
8	Disallowance	4,084
9	Purchased Water Expense	\$ 1,156,477
10	Disallowance	39,598

Line 1: Maximum acceptable level of water losses

Line 2: Actual level of water losses

Line 3: Line 2 / line 3

Line 4: 1 minus line 4

Lines 5, and 7: Per Schedule GWB-11, Col [A]

Line 9 : Per Schedule GWB-11, Col [A] plus Col [D]

Line 6: Line 5 times line 4

Line 8: Line 7 times line 4

Line 10: Line 9 times line 4

Chaparral City Water Company  
Docket No. W-02113A-13-0118  
Test Year Ended December 31, 2012

Schedule GWB-13  
AMENDED SURREBUTTAL

**OPERATING INCOME ADJUSTMENT #2 - INCENTIVE COMPENSATION & CONTRIBUTIONS, DUES**

<u>LINE NO.</u>	<u>DESCRIPTION</u>	<u>[A] COMPANY PROPOSED</u>	<u>[B] STAFF ADJUSTMENTS</u>	<u>[C] STAFF RECOMMENDED*</u>
1	Incentive Comp	\$ 89,517	\$ (89,517)	\$ -
2	Contributions and Dues	\$ 57,921	\$ (57,921)	\$ -
	Total Adjustment	\$ 147,438	\$ (147,438)	\$ -

References:

Column (A), Per Company Response to Staff data request

Column (B): Testimony GWB

Column (C): Column (A) + Column (B)

Chaparral City Water Company  
Docket No. W-02113A-13-0118  
Test Year Ended December 31, 2012

Schedule GWB-14  
AMENDED SURREBUTTAL

**OPERATING INCOME ADJUSTMENT #3 - PURCHASED WATER EXPENSE**

LINE NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] STAFF ADJUSTMENTS	[C] STAFF RECOMMENDED*
1		\$ 1,065,953	\$ 90,524	\$ 1,156,477

References:

Column (A), Company Workpapers

Column (B): Testimony GWB

Column (C): Column (A) + Column (B), Per Co Response  
to Staff DR 4.4

OPERATING INCOME ADJUSTMENT #4 - DEPRECIATION EXPENSE

LINE NO.	ACCT. NO.	DESCRIPTION	[A] PLANT BALANCE	[B] FULLY DEPRECIATED	[C] DEPRECIABLE AMOUNT	[D] DEPRECIATION RATE	[E] DEPRECIATION EXPENSE
1		<u>PLANT IN SERVICE:</u>					
2	303	Other Intangible Plant	\$ -		\$ -	0.00%	-
3	303	Land and Land Rights	1,554,591		1,554,591	0.00%	-
4	304	Structures and Improvements - Pumping	-		-	3.33%	-
5	304	Structures and Improvements - Treatment	-		-	3.33%	-
6	304	Structures and Improvements - T & D	-		-	3.33%	-
7	304	Structures & Improvements - General	1,963,919		1,963,919	3.33%	65,399
8	305	Collecting and Impounding Reservoirs	6,970		6,970	2.50%	174
9	307	Wells	159,627		159,627	3.33%	5,316
10	309	Supply Mains	-		-	2.00%	-
11	311	Pumping Equipment & Other Pumping Plant	4,150,661	(1,539,667)	2,610,994	12.50%	326,374
12	320.1	Water Treatment Equipment	7,692,704		7,692,704	3.33%	256,167
13	330	Reservoirs and Tanks	-		-	0.00%	-
14	330.1	Storage Tanks	8,869,561		8,869,561	2.22%	196,904
15	331	Transmission and Distribution Mains	25,566,351		25,566,351	2.00%	511,327
16	333	Services	11,479,113		11,479,113	3.33%	382,254
17	334	Meters	3,038,174		3,038,174	8.33%	253,080
18	335	Hydrants	2,095,035		2,095,035	2.00%	41,901
19	339	Other Transmission & Distribution Plant	2,119,843		2,119,843	6.67%	141,394
20	339	Other Transmission & Distribution Plant	-		-	6.67%	-
21	340	Office Furniture and Equipment, Computers, Software, Peripherals	305,068		305,068	6.67%	20,348
22	341	Transportation Equipment	426,970	(400,253)	26,717	20.00%	5,343
23	343	Power Operated Equipment & Tool, Shop and Garage Equipment	411,607		411,607	5.00%	20,580
24	345	Power Operated Equipment	-		-	5.00%	-
25	346	Communication Equipment	257,095		257,095	10.00%	25,710
26	347	Other General Plant	-		-	10.00%	-
27		Misc Adj/ Reconciling Item	-		-		-
28		Total Utility Plant in Service	\$ 70,097,289	\$ (1,939,920)	\$ 68,157,369		\$ 2,252,271
29		Less: Non Depreciable Plant					
30		Other Intangible Plant			1,554,591		
31		Net Depreciable Plant and Depreciation Amounts			\$ 66,602,778		\$ 2,252,271
32							
33		Amortization of CIAC			\$ 14,991,871	3.3816%	506,972
34		Staff Recommended Depreciation Expense					\$ 1,745,299
35		Deferred CAP Amortization					15,641
36		Amortization of Gains on FHSD Settlement					(76,000)
37		Company Proposed Depreciation Expense					\$ 1,684,940
38		Staff Adjustment					2,014,048
							\$ (329,108)

References:

Col [A] Schedule GWB-4  
Col [B] Fully Depreciated Plant, per Testimony  
Col [C] Col [A] less Col [B]  
Col [D] Proposed Rates per Staff Engineering  
Col [E] Col [A] times Col [B]

Chaparral City Water Company  
Docket No. W-02113A-13-0118  
Test Year Ended December 31, 2012

Schedule GWB-17  
AMENDED SURREBUTTAL

OPERATING INCOME ADJUSTMENT #5 - INCOME TAXES

LINE NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] STAFF ADJUSTMENTS	[C] STAFF RECOMMENDED
1	Income Taxes	\$ 389,412	\$ 64,707	\$ 454,120

References:

Column (A), Company Schedule C-2

Column (B): Testimony GWB

Column (C): Column (A) + Column (B),  
see also Sch. GWB-2, line 48

**OPERATING INCOME ADJUSTMENT #6 - PROPERTY TAX EXPENSE GRCF COMPONENT**

LINE NO.	DESCRIPTION	[A] STAFF AS ADJUSTED	[B] STAFF RECOMMENDED
1	Staff Adjusted Test Year Revenues - 2011	\$ 9,014,985	\$ 9,014,985
2	Weight Factor	2	2
3	Subtotal (Line 1 * Line 2)	18,029,971	18,029,971
4	Staff Adjusted Test Year Revenues - 2011	9,014,985	
5	Staff Recommended Revenue		10,369,139
6	Subtotal (Line 4 + Line 5)	27,044,956	28,399,110
7	Number of Years	3	3
8	Three Year Average (Line 5 / Line 6)	9,014,985	9,466,370
9	Department of Revenue Multiplier	2	2
10	Revenue Base Value (Line 7 * Line 8)	18,029,971	18,932,740
11	Plus: 10% of CWIP	161,294	161,294
12	Less: Net Book Value of Licensed Vehicles	-	-
13	Full Cash Value (Line 10 + Line 11 - Line 12)	18,191,265	19,094,034
14	Assessment Ratio	18.5%	18.5%
15	Assessment Value (Line 13 * Line 14)	3,365,384	3,532,396
16	Composite Property Tax Rate	6.9000%	6.9000%
17	Staff Test Year Adjusted Property Tax Expense (Line 15 * Line 16)	\$ 232,211	
18	Company Proposed Property Tax	251,038	
19	Staff Test Year Adjustment (Line 17 - Line 18)	\$ (18,828)	
20	Property Tax on Staff Recommended Revenue (Line 15 * Line 16)		\$ 243,735
21	Staff Test Year Adjusted Property Tax Expense (Line 17)		232,211
22	Increase in Property Tax Due to Increase in Revenue Requirement		\$ 11,524
23	Increase in Property Tax Due to Increase in Revenue Requirement (Line 22)		\$ 11,524
24	Increase in Revenue Requirement		\$ 1,354,154
25	Increase in Property Tax Per Dollar Increase in Revenue (Line 23 / Line 24)		0.85100%

**REFERENCES:**

Line 15: Composite Tax Rate, per Company  
Line 18: Company Schedule C-1, Line 36

## **ATTACHMENT A**



PLANT IN SERVICE

Line No.	ACCT #	ACCT #	Dep Rates Decision	No. 71308	Dec. No. 71308	Dec. No. 71308	Adjusted 1/1/2007	Adjusted 1/1/2007	Plant Beginning Balance	Accum Deprec Beginning Balance	2007 Additions	2007 Retirements	2007 Adjustments	2007 Dep	2007 Cost of Removal
2	EPCOR NARUC														
3	ACCT #	ACCT #	Deprec.	12/31/2006	Accum Dep										
5															
6	301	Organization	0.00%	-	-	-	-	-	-	-	-	-	-	-	-
7	302	Franchises	0.00%	-	-	-	-	-	-	-	-	-	-	-	-
8	303	Land and Land Rights	0.00%	1,551,857	1,551,857	1,551,857	1,551,857	1,551,857	1,551,857	2,734	-	-	-	-	-
9	304	Structures & Improvements	3.33%	1,529,642	357,558	357,558	1,529,642	1,529,642	357,558	26,359	-	-	-	-	50,937
10	304500	2007	3.33%												439
11		2008	3.33%												
12		2009	3.33%												
13		2010	3.33%												
14		2011	3.33%												
15		2012	3.33%												
16	304	Subtotal Structures & Improvements	2.50%	1,529,642	357,558	357,558	1,529,642	1,529,642	357,558	26,359	-	-	-	-	51,376
17	305	Collecting and Impounding Rese	2.50%	573	573	573	573	573	573	-	-	-	-	-	-
18		2007	2.50%												
19		2008	2.50%												
20		2009	2.50%												
21		2010	2.50%												
22		2011	2.50%												
23		2012	2.50%												
24	305	Subtotal Collecting and Impounds	2.50%	573	573	573	573	573	573	-	-	-	-	-	-
25	306	Lakes, Rivers, Other Intakes	3.33%	159,627	76,436	76,436	159,627	159,627	76,436	-	-	-	-	-	5,316
26	307	Wells	3.33%												
27		2007	3.33%												
28		2008	3.33%												
29		2009	3.33%												
30		2010	3.33%												
31		2011	3.33%												
32		2012	3.33%												
33	307	Subtotal Wells	6.67%	159,627	76,436	76,436	159,627	159,627	76,436	-	-	-	-	-	5,316
34	308	Infiltration Galleries & Tunnels	2.00%	-	-	-	-	-	-	-	-	-	-	-	-
35	309	Supply Mains	2.00%	-	-	-	-	-	-	-	-	-	-	-	-
36		2007	2.00%												
37		2008	2.00%												
38		2009	2.00%												
39		2010	2.00%												
40		2011	2.00%												
41		2012	2.00%												
42	309	Subtotal Supply Mains	5.00%	-	-	-	-	-	-	-	-	-	-	-	-
43	310	Power Generation Equipment	12.50%	1,588,246	881,086	881,086	1,588,246	1,588,246	881,086	-	-	-	-	-	198,531
44	311	Pumping Equipment	12.50%							1,211,840	-	-	-	-	75,740
45		2007	12.50%												
46		2008	12.50%												
47		2009	12.50%												
48		2010	12.50%												
49		2011	12.50%												
50		2012	12.50%												
	311	Subtotal Pumping Equipment	12.50%	1,588,246	881,086	881,086	1,588,246	1,588,246	881,086	1,211,840	-	-	-	-	274,271

	Dep Rates		No. 71308	Dec. No. 71308	Dec. No. 71308	Accum Dep	Adjusted 1/1/2007	Plant Beginning Balance	Accum Deprec Beginning Balance	2007 Additions	2007 Retirements	2007 Adjustments	2007 Dep	2007 Cost of Removal
	Decision	Depr.												
2														
3	EPCOR NARUC													
5	ACCT # ACCT #													
51	320100	320	Water Treatment Plant	3.33%	5,786,840	293,541	a	5,786,840	293,541	389,983	1,072	-	192,877	
52			2007	3.33%									6,493	
53			2008	3.33%									-	
54			2009	3.33%									-	
55			2010	3.33%									-	
56			2011	3.33%									-	
57			2012	3.33%									-	
58	330000	320	Subtotal Water Treatment Plant	2.22%	5,786,840	293,541		5,786,840	293,541	389,983	1,072	-	199,170	
59		330.1	Storage Tanks	2.22%	1,006,989		b	1,006,989					22,355	
60			2007	2.22%									-	
61			2008	2.22%									-	
62			2009	2.22%									-	
63			2010	2.22%									-	
64			2011	2.22%									-	
65			2012	2.22%									-	
66		330.1	Subtotal Storage Tanks	2.22%	1,006,989			1,006,989					22,355	
67	330000	330.1	Storage Tanks	2.22%	3,621,713	1,996,014	b	3,621,713	1,996,014	1,688,599	5,420	-	80,342	
68			2007	2.22%									18,743	
69			2008	2.22%									-	
70			2009	2.22%									-	
71			2010	2.22%									-	
72			2011	2.22%									-	
73			2012	2.22%									-	
74	330000	330.1	Subtotal Storage Tanks	2.22%	3,621,713	1,996,014		3,621,713	1,996,014	1,688,599	5,420	-	99,085	
75			Storage Tanks	2.22%	1,883,446		b	1,883,446					41,813	
76			2007	2.22%									-	
77			2008	2.22%									-	
78			2009	2.22%									-	
79			2010	2.22%									-	
80			2011	2.22%									-	
81			2012	2.22%									-	
82		330.1	Subtotal Storage Tanks	2.22%	1,883,446			1,883,446					41,813	
83	331001	331	Transmission & Distribution Mains	2.00%	18,953,054	7,154,728	d	18,953,054	7,154,728	2,040,825	20,188	-	378,859	
84			2007	2.00%									20,408	
85			2008	2.00%									-	
86			2009	2.00%									-	
87			2010	2.00%									-	
88			2011	2.00%									-	
89			2012	2.00%									-	
90	333000	331	Transmission & Distribution Mains	3.33%	18,953,054	7,154,728		18,953,054	7,154,728	2,040,825	20,188	-	399,267	
91		333	Services	3.33%	7,496,339	1,060,784	d	7,496,339	1,060,784	888,035	-	-	249,628	
92			2007	3.33%									14,786	
93			2008	3.33%									-	
94			2009	3.33%									-	
95			2010	3.33%									-	
96			2011	3.33%									-	
97			2012	3.33%									-	
98	334100	333	Services	8.33%	7,496,339	1,060,784		7,496,339	1,060,784	888,035	-	-	284,414	
99		334	Meters & Meter Installation	8.33%	2,736,866	990,763		2,736,866	990,763	-	-	-	227,981	
100			2007	8.33%									-	
101			2008	8.33%									-	
102			2009	8.33%									-	
103			2010	8.33%									-	
104			2011	8.33%									-	
105			2012	8.33%									-	





Test Year ending December 31, 2012

PLANT IN SERVICE

Line No.	ACCT #	ACCT #	EPCOR NARUC	Dep Rates		Plant Balance	Accum Dep	2008	Retirements	Adjustments	2008	Dep Exp	2008	Cost of Removal	Plant Balance	Accum Dep	2008	Additions	2008	Retirements
				Decision	No. 71308															
2																				
3																				
5																				
6																				
7	303600																			
8	304200																			
9	thru																			
10	304500																			
11																				
12																				
13																				
14																				
15																				
16	305000																			
17																				
18																				
19																				
20																				
21																				
22																				
23																				
24																				
25	307000																			
26																				
27																				
28																				
29																				
30																				
31																				
32																				
33																				
34	309000																			
35																				
36																				
37																				
38																				
39																				
40																				
41																				
42																				
43	311000																			
44																				
45																				
46																				
47																				
48																				
49																				
50																				









PLANT IN SERVICE

Line No.	ACCT #	ACCT #	Dep. Rates Decision	Dep. No. 71308	2009 Adjustments	2009 Dep Exp	2009 Cost of Removal	Plant Balance 2009	Accum Dep 2009	2010 Additions	2010 Retirements	2010 Adjustments	2010 Dep Exp	2010 Cost of Removal	Plant Balance 2010	Accum Dep 2010
2	EPCOR NARUC															
5	ACCT #	ACCT #	Dep. Rates Decision	Dep. No. 71308	2009 Adjustments	2009 Dep Exp	2009 Cost of Removal	Plant Balance 2009	Accum Dep 2009	2010 Additions	2010 Retirements	2010 Adjustments	2010 Dep Exp	2010 Cost of Removal	Plant Balance 2010	Accum Dep 2010
6	301	Organization	0.00%													
7	302	Franchises	0.00%					1,554,591							1,554,591	
8	303	Land and Land Rights	0.00%					1,529,664	510,370				50,938		1,529,664	561,308
9	304	Structures & Improvements	3.33%			50,938		28,359	2,184				878		28,359	3,072
10	304200	2007	3.33%			878		159,983	7,991				5,327		159,983	13,319
11	304500	2008	3.33%			5,327		6,010	100				200		6,010	300
12		2009	3.33%			100										
13		2010	3.33%													
14		2011	3.33%													
15		2012	3.33%													
16	305000	Subtotal Structures & Improvements	2.50%			57,243		1,722,016	520,656			0	57,343		1,722,016	577,999
17		Collecting and Impounding Rese	2.50%						573							573
18		2007	2.50%													
19		2008	2.50%													
20		2009	2.50%													
21		2010	2.50%													
22		2011	2.50%													
23		2012	2.50%													
24	307000	Subtotal Collecting and Impoundments	2.50%						573							573
25		Lakes, Rivers, Other Intakes	2.50%													
26		2007	3.33%			5,316		159,627	92,383				5,316		159,627	97,698
27		2008	3.33%													
28		2009	3.33%													
29		2010	3.33%													
30		2011	3.33%													
31		2012	3.33%													
32	308000	Subtotal Wells	3.33%			5,316		159,627	92,383				5,316		159,627	97,698
33		Infiltration Galleries & Tunnels	6.67%													
34		2007	2.00%													
35		2008	2.00%													
36		2009	2.00%													
37		2010	2.00%													
38		2011	2.00%													
39		2012	2.00%													
40	309000	Subtotal Supply Mains	2.00%													
41		Power Generation Equipment	5.00%													
42		2007	12.50%			193,768		1,539,667	1,421,610				192,458		1,539,667	1,614,068
43	311000	Pumping Equipment	12.50%			151,480		1,211,840	378,700				151,480		1,211,840	530,180
44		2008	12.50%			100,621		804,971	150,932				100,621		804,971	251,553
45		2009	12.50%			29,295		468,725	29,295				58,591		468,725	87,886
46		2010	12.50%													
47		2011	12.50%													
48		2012	12.50%													
49	311	Subtotal Pumping Equipment	12.50%			475,165		4,025,203	1,980,537				503,150		4,025,203	2,483,688
50																



Dep Rates		Decision										Dep Rates		
Decision		No. 71308										Decision		
ACCT #	ACCT #	Dep.	Adjustments	Dep Exp	2009 Cost of Removal	Plant Balance	Accum Dep	2010 Additions	Retirements	Adjustments	Dep Exp	2010 Cost of Removal	Plant Balance	Accum Dep
89		2012	8.33%	-	-	-	-	-	-	-	-	-	-	-
90	334	Meters & Meter Installation	-	238,809	-	2,877,839	1,690,490	-	-	-	239,724	-	2,877,839	1,930,214
91	335	Hydrants	2.00%	-	24,004	1,175,405	258,937	-	-	1,744	23,491	-	1,173,661	280,684
92		2007	2.00%	5,964	-	298,184	14,909	-	-	-	5,964	-	298,184	20,873
93		2008	2.00%	4,761	-	238,027	7,165	-	-	-	4,761	-	238,027	11,925
94		2009	2.00%	-	2,030	203,025	2,030	-	-	-	4,061	-	203,025	6,091
95		2010	2.00%	-	-	-	-	45,930	-	-	459	-	45,930	459
96		2011	2.00%	-	-	-	-	-	-	-	-	-	-	-
97		2012	2.00%	-	-	-	-	-	-	-	-	-	-	-
98	335	Subtotal Hydrants	-	36,758	-	1,914,641	283,042	45,930	-	1,744	38,735	-	1,958,827	320,032
99	336	Backflow Prevention Devices	0.00%	-	-	-	-	-	-	-	-	-	-	-
100	339	Other Plant & Misc. Equipment	6.67%	102,962	-	1,543,655	444,847	-	-	-	102,962	-	1,543,655	547,809
101		2007	6.67%	10,347	-	155,131	25,868	-	-	-	10,347	-	155,131	36,215
102		2008	6.67%	-	-	-	-	-	-	-	-	-	-	-
103		2009	6.67%	-	410	12,307	410	-	-	-	821	-	12,307	1,231
104		2010	6.67%	-	-	-	-	38,743	-	-	1,292	-	38,743	1,292
105		2011	6.67%	-	-	-	-	-	-	-	-	-	-	-
106		2012	6.67%	-	-	-	-	-	-	-	-	-	-	-
107	339	Subtotal Other Plant & Misc. Equipment	-	113,719	-	1,711,093	471,126	38,743	-	-	115,422	-	1,749,836	586,548
108	339	Other Plant & Misc. Equipment	6.67%	6,238	-	93,523	16,456	-	-	-	6,238	-	93,523	22,694
109		2007	6.67%	-	-	-	-	-	-	-	-	-	-	-
110		2008	6.67%	-	-	-	-	-	-	-	-	-	-	-
111		2009	6.67%	-	-	-	-	-	-	-	-	-	-	-
112		2010	6.67%	-	-	-	-	-	-	-	-	-	-	-
113		2011	6.67%	-	-	-	-	-	-	-	-	-	-	-
114		2012	6.67%	-	-	-	-	-	-	-	-	-	-	-
115	339	Subtotal Other Plant & Misc. Equipment	-	6,238	-	93,523	16,456	-	-	-	6,238	-	93,523	22,694
116	339	Other Plant & Misc. Equipment	6.67%	2,749	-	41,221	8,248	-	-	-	2,749	-	41,221	10,998
117		2007	6.67%	-	-	-	-	-	-	-	-	-	-	-
118		2008	6.67%	-	-	-	-	-	-	-	-	-	-	-
119		2009	6.67%	-	-	-	-	-	-	-	-	-	-	-
120		2010	6.67%	-	-	-	-	-	-	-	-	-	-	-
121		2011	6.67%	-	-	-	-	-	-	-	-	-	-	-
122		2012	6.67%	-	-	-	-	-	-	-	-	-	-	-
123	339	Subtotal Other Plant & Misc. Equipment	-	2,749	-	41,221	8,248	-	-	-	2,749	-	41,221	10,998
100	340	Office Furniture & Equipment	6.67%	-	11,375	169,409	72,984	-	-	-	11,300	-	169,409	84,283
101		2007	6.67%	804	-	12,058	2,011	-	-	-	804	-	12,058	2,815
102		2008	6.67%	10	-	145	15	-	-	-	10	-	145	24
103		2009	6.67%	-	126	3,782	126	-	-	-	252	-	3,782	378
104		2010	6.67%	-	-	-	-	-	-	(1)	-	-	-	-
105		2011	6.67%	-	-	-	-	-	-	-	-	-	-	-
106		2012	6.67%	-	-	-	-	-	-	-	-	-	-	-
107	340	Subtotal Office Furniture & Equipment	-	12,315	-	185,394	75,135	-	-	(1)	12,366	-	185,395	87,501
108	340	Office Furniture & Equipment	6.67%	-	6,335	94,985	19,006	-	-	-	6,335	-	94,985	25,342
109		2007	6.67%	-	-	-	-	-	-	-	-	-	-	-
110		2008	6.67%	-	-	-	-	-	-	-	-	-	-	-
111		2009	6.67%	-	-	-	-	-	-	-	-	-	-	-
112		2010	6.67%	-	-	-	-	-	-	(1)	-	-	-	-
113		2011	6.67%	-	-	-	-	-	-	-	-	-	-	-
114		2012	6.67%	-	-	-	-	-	-	-	-	-	-	-
115	340	Subtotal Office Furniture & Equipment	-	6,335	-	94,985	19,006	-	-	(1)	6,335	-	94,986	25,342
116	341	Transportation Equipment	20.00%	93,119	-	465,597	245,443	-	-	33,031	93,119	-	432,566	338,562
117		2007	20.00%	13,052	-	65,258	32,629	-	-	-	13,052	-	65,258	45,681
118		2008	20.00%	3,416	-	17,080	5,124	-	-	-	3,416	-	17,080	8,540



PLANT IN SERVICE

Line No.		Dep Rates Decision	Dep Rates												Plant Balance			
			No. 71308															
			Dep.	2011	Additions	Retirements	Adjustments	Dep Exp	2011	Plant Balance	Accum Dep	2012	Additions	Retirements		Adjustments	Dep Exp	2012
2																		
3	EPCOR NARUC																	
5	ACCT # ACCT #																	
6			301	Organization	0.00%													
7	303600		302	Franchises	0.00%													1,554,591
8	304200		303	Land and Land Rights	0.00%													1,529,684
9	thru		304	Structures & Improvements	3.33%													26,359
10	304500				3.33%													159,983
11					3.33%													6,010
12					3.33%													
13					3.33%													
14					3.33%													
15			304	Subtotal Structures & Improvements														
16	305000		305	Collecting and Impounding Rese	2.50%													
17					2.50%													
18					2.50%													
19					2.50%													
20					2.50%													
21					2.50%													
22					2.50%													
23			305	Subtotal Collecting and Impounds														
24			306	Lakes, Rivers, Other Intakes	2.50%													
25	307000		307	Wells	3.33%													
26					3.33%													
27					3.33%													
28					3.33%													
29					3.33%													
30					3.33%													
31					3.33%													
32			307	Subtotal Wells														
33			308	Infiltration Galleries & Tunnels	6.67%													
34	309000		309	Supply Mains	2.00%													
35					2.00%													
36					2.00%													
37					2.00%													
38					2.00%													
39					2.00%													
40					2.00%													
41			309	Subtotal Supply Mains														
42			310	Power Generation Equipment	5.00%													
43	311000		311	Pumping Equipment	12.50%													
44					12.50%													
45					12.50%													
46					12.50%													
47					12.50%													
48					12.50%													
49					12.50%													
50			311	Subtotal Pumping Equipment														









PLANT IN SERVICE

Line No.	Dep Rates Decision	Accum Dep	PLANT		
2	No. 71308	Dep	E-5	Staff MJR WKPS	VARIANCE
3	EPCOR NARUC				
5	ACCT # ACCT #	Depr. 2012			
301	Organization	0.00%	-	-	-
302	Franchises	0.00%	-	-	-
303	Land and Land Rights	0.00%	-	1,554,591	1,554,592
304	Structures & Improvements	3.33%	663,183	-	-
304200	2007	3.33%	4,828	-	-
304500	2008	3.33%	23,973	-	-
304500	2009	3.33%	700	-	-
304500	2010	3.33%	-	-	-
304500	2011	3.33%	1,293	-	-
304500	2012	3.33%	789	-	-
304	Subtotal Structures & Improvements		694,767	1,795,309	1,778,795 (16,514)
305	Collecting and Impounding Rese	2.50%	573	-	-
305000	2007	2.50%	-	-	-
305000	2008	2.50%	-	-	-
305000	2009	2.50%	-	-	-
305000	2010	2.50%	-	-	-
305000	2011	2.50%	-	-	-
305000	2012	2.50%	87	-	-
305	Subtotal Collecting and Impoundings		660	1,007,411	1,000,441
306	Lakes, Rivers, Other Intakes	2.50%	-	-	-
307	Wells	3.33%	108,329	-	-
307000	2007	3.33%	-	-	-
307000	2008	3.33%	-	-	-
307000	2009	3.33%	-	-	-
307000	2010	3.33%	-	-	-
307000	2011	3.33%	-	-	-
307000	2012	3.33%	-	-	-
307	Subtotal Wells		108,329	159,627	-
308	Infiltration Galleries & Tunnels	6.67%	-	-	-
309	Supply Mains	2.00%	-	-	-
309000	2007	2.00%	-	-	-
309000	2008	2.00%	-	-	-
309000	2009	2.00%	-	-	-
309000	2010	2.00%	-	-	-
309000	2011	2.00%	-	-	-
309000	2012	2.00%	-	-	-
309	Subtotal Supply Mains		-	2,201,526	2,201,526
310	Power Generation Equipment	5.00%	-	-	-
311	Pumping Equipment	12.50%	1,998,985	-	-
311000	2007	12.50%	833,140	-	-
311000	2008	12.50%	452,796	-	-
311000	2009	12.50%	205,067	-	-
311000	2010	12.50%	-	-	-
311000	2011	12.50%	7,084	-	-
311000	2012	12.50%	5,480	-	-
311	Subtotal Pumping Equipment		3,502,552	4,150,661	5,976,046 1,825,385

Dep Rates		Decision		Accum	
		No. 71308		Dep	
		Depr.		2012	
		ACCT #		E-5	
		ACCT #		MJR WKPS	
				POINT	
				VARIANCE	
51	320100	320	Water Treatment Plant	3.33%	1,386,688
52			2007	3.33%	71,425
53			2008	3.33%	11,440
54			2009	3.33%	26,450
55			2010	3.33%	1,859
56			2011	3.33%	-
57			2012	3.33%	1,185
58	330000	320	Subtotal Water Treatment Plant		1,508,048
59		330.1	Storage Tanks	2.22%	134,131
60			2007	2.22%	-
61			2008	2.22%	-
62			2009	2.22%	-
63			2010	2.22%	-
64			2011	2.22%	-
65			2012	2.22%	-
66	330000	330.1	Subtotal Storage Tanks		134,131
67		330.1	Storage Tanks	2.22%	2,453,544
68			2007	2.22%	206,178
69			2008	2.22%	2,089
70			2009	2.22%	-
71			2010	2.22%	-
72			2011	2.22%	-
73			2012	2.22%	-
74	330000	330.1	Subtotal Storage Tanks		2,661,810
75		330.1	Storage Tanks	2.22%	5,308,705
76			2007	2.22%	250,875
77			2008	2.22%	-
78			2009	2.22%	-
79			2010	2.22%	-
80			2011	2.22%	-
81			2012	2.22%	-
82	331001	330.1	Subtotal Storage Tanks		250,875
83		331	Transmission & Distribution Main	2.00%	9,146,412
84			2007	2.00%	224,491
85			2008	2.00%	166,043
86			2009	2.00%	58,242
87			2010	2.00%	817
88			2011	2.00%	859
89			2012	2.00%	9,778
90	333000	331	Transmission & Distribution Mains		9,606,641
91		333	Services	3.33%	1,823,185
92			2007	3.33%	162,644
93			2008	3.33%	185,987
94			2009	3.33%	83,711
95			2010	3.33%	34,032
96			2011	3.33%	31,342
97			2012	3.33%	-
98	334100	333	Services		2,320,901
99		334	Meters & Meter Installation	8.33%	2,313,093
100			2007	8.33%	-
101			2008	8.33%	44,606
102			2009	8.33%	6,407
103			2010	8.33%	-
104			2011	8.33%	-
105			2012	8.33%	-
106	334100	334	Meters & Meter Installation		10,907,517
107					(11,517)

2	3	5	EPCOR NARUC	Dep Rates		Accum	Dep	POINT		
				Decision	No. 71308			E-5	MJR WKPS	VARIANCE
ACCT #	ACCT #	ACCT #	ACCT #	Depr.	2012	2012	2012	2012	2012	2012
89	334	335	335000	2012	8.33%	10,281	2,374,387	2,919,624	2,919,624	-
90				Meters & Meter Installation						
91				Hydrants						
92				2007	2.00%	316,478				
93				2008	2.00%	32,800				
94				2009	2.00%	21,447				
95				2010	2.00%	14,212				
96				2011	2.00%	2,297				
97				2012	2.00%	2,760				
98	335			Subtotal Hydrants			389,993	2,040,005	2,030,960	(9,045)
99	336			Backflow Prevention Devices	0.00%	-				
100	339			Other Plant & Misc. Equipment	6.67%	753,733				
101				2007	6.67%	56,910				
102				2008	6.67%	-				
103				2009	6.67%	2,873				
104				2010	6.67%	6,460				
105				2011	6.67%	-				
106				2012	6.67%	634				
107	339			Subtotal Other Plant & Misc. Equipment			820,610	1,766,841	184,742	(1,584,099)
108	339			Other Plant & Misc. Equipment	6.67%	35,170				
109				2007	6.67%	-				
110				2008	6.67%	-				
111				2009	6.67%	-				
112				2010	6.67%	-				
113				2011	6.67%	-				
114				2012	6.67%	-				
115	339			Subtotal Other Plant & Misc. Equipment			35,170	93,523		(93,523)
116	339			Other Plant & Misc. Equipment	6.67%	16,497				
117				2007	6.67%	-				
118				2008	6.67%	-				
119				2009	6.67%	-				
120				2010	6.67%	-				
121				2011	6.67%	-				
122				2012	6.67%	-				
123	339			Subtotal Other Plant & Misc. Equipment			16,497	41,221		(41,221)
100	340			Office Furniture & Equipment	6.67%	106,883				
101				2007	6.67%	4,423				
102				2008	6.67%	44				
103				2009	6.67%	883				
104				2010	6.67%	0				
105				2011	6.67%	2,470				
106				2012	6.67%	-				
107	340			Subtotal Office Furniture & Equipment			114,702	210,082	305,067	94,985
108	340			Office Furniture & Equipment	6.67%	38,013				
109				2007	6.67%	-				
110				2008	6.67%	-				
111				2009	6.67%	-				
112				2010	6.67%	0				
113				2011	6.67%	-				
114				2012	6.67%	-				
115	340			Subtotal Office Furniture & Equipment			38,013	94,986		(94,986)
116	341			Transportation Equipment	20.00%	400,212				
117				2007	20.00%	71,784				
118				2008	20.00%	15,372				

Dep Rates	Decision	Accum	Dep				POINT			
			No. 71308				E-5			
ACCT #	ACCT #	ACCT #	Dep				E-5			
			2012				E-5			
119	2009	20.00%	487,368	417,333	417,313	(20)				
120	2010	20.00%	-	-	-	-				
121	2011	20.00%	-	-	-	-				
122	2012	20.00%	-	-	-	-				
123	Subtotal Transportation Equipment									
124	341	Stores Equipment	4.00%	-	-	-				
125	342	Tools, Ship & Garage Equipment	5.00%	68,989	-	-				
126	2007	5.00%	2,128	-	-	-				
127	2008	5.00%	4,388	-	-	-				
128	2009	5.00%	-	-	-	-				
129	2010	5.00%	-	-	-	-				
130	2011	5.00%	-	-	-	-				
131	2012	5.00%	571	-	-	-				
132	343	Subtotal Tools, Ship & Garage Equipment	10.00%	76,075	190,662	190,661	(1)			
133	344	Laboratory Equipment	5.00%	25	-	-				
134	345	Power Operated Equipment	5.00%	-	-	-				
135	2007	5.00%	-	-	-	-				
136	2008	5.00%	-	-	-	-				
137	2009	5.00%	-	-	-	-				
138	2010	5.00%	-	-	-	-				
139	2011	5.00%	-	-	-	-				
140	2012	5.00%	-	-	-	-				
141	345	Subtotal Power Operated Equipment	10.00%	-	-	-				
142	346	Communication Equipment	10.00%	24,346	-	-				
143	2007	10.00%	2,322	-	-	-				
144	2008	10.00%	-	-	-	-				
145	2009	10.00%	-	-	-	-				
146	2010	10.00%	-	-	-	-				
147	2011	10.00%	-	-	-	-				
148	2012	10.00%	-	-	-	-				
149	346	Subtotal Communication Equipment	6.67%	26,668	43,327	43,327	-			
150	339000	Miscellaneous Equipment	6.67%	74,537	-	-				
151	(This account is	2007	6.67%	-	-	-				
152	included in A/C 339	2008	6.67%	-	-	-				
153	in Decision No.	2009	6.67%	-	-	-				
154	71308)	2010	6.67%	-	-	-				
155	2011	6.67%	-	-	-	-				
156	2012	6.67%	-	-	-	-				
157	339	Subtotal Miscellaneous Equipment	10.00%	74,537	106,542	(106,542)				
158	346	Other Tangible Plant	10.00%	-	-	-				
159	SUBTOTAL PLANT IN SERVICE									
160			25,243,760	65,627,053	65,627,032	(22)				
2	Total Authorized Plant in Service									
3			25,243,760	65,627,053	65,627,032	(22)				
4	Company									
5			25,734,123	65,617,302	65,617,302					
6	Staff More/(Less)									
			(490,363)	9,751	9,730					

## **ATTACHMENT B**

# **UNIFORM SYSTEM OF ACCOUNTS FOR CLASS A WATER UTILITIES**

**1996**



**NATIONAL ASSOCIATION OF  
REGULATORY UTILITY COMMISSIONERS**

**1201 Constitution Avenue, N.W., Suite 1102**

**Post Office Box 684**

**Washington, DC 20044-0684**

**Telephone No. (202) 898-2200**

**Facsimile No. (202) 898-2213**

**Price: \$25.00**

## INCOME ACCOUNTS

### Operating Income

#### 400. Operating Revenues

This is the revenue control account which totals the accounts recorded in water revenue accounts 460 through 474.

#### 401. Operating Expenses

This is the operating expense control account which totals the amounts recorded in operating expense accounts 601 through 675 for water systems.

#### 403. Depreciation Expenses

A. This account shall be charged with depreciation credited to account 108 - Accumulated Depreciation of Water Plant and credited with amortization debited to account 272 - Accumulated Amortization of Contributions in Aid of Construction. Depreciation shall be accrued on a straight-line remaining life basis or straight-line basis, as required by the Commission. A single composite depreciation rate may be used if approval from the Commission is obtained.

Note A:--See Accounting Instruction 33, for more detailed instructions on depreciation accounting.

B. Depreciation for property not used in water operations is charged to account 426 - Miscellaneous Nonutility Expenses, and is credited to account 122 - Accumulated Depreciation and Amortization of Nonutility Property.

#### 406. Amortization of Utility Plant Acquisition Adjustments

This account shall be debited or credited, as the case may be, only upon the approval of the Commission, for the purpose of providing for the extinguishment of the amount in account 114 - Utility Plant Acquisition Adjustments.

#### 407. Amortization Expense

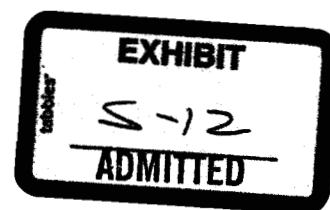
This account shall be the control account for amortization accounts totaling the amounts in accounts 407.1 to 407.3.

##### 407.1 Amortization of Limited Term Plant

This account shall include amortization charges applicable to amounts included in the utility plant accounts for limited

BEFORE THE ARIZONA CORPORATION COMMISSION

BOB STUMP  
Chairman  
GARY PIERCE  
Commissioner  
BRENDA BURNS  
Commissioner  
BOB BURNS  
Commissioner  
SUSAN BITTER SMITH  
Commissioner



IN THE MATTER OF THE APPLICATION ) DOCKET NO. W-02113A-13-0118  
OF CHAPARRAL CITY WATER COMPANY )  
FOR A DETERMINATION OF THE )  
CURRENT FAIR VALUE OF ITS UTILITY )  
PLANT AND PROPERTY AND FOR )  
INCREASE IN ITS RATES AND CHARGES )  
BASED THEREON )  
\_\_\_\_\_ )

AMENDED SURREBUTTAL

RATE DESIGN

DIRECT TESTIMONY

OF

GERALD BECKER

EXECUTIVE CONSULTANT

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

FEBRUARY 27, 2014



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MISCELLANEOUS SERVICE CHARGES .....	4

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Rate Design .....	GWB-1
Typical Residential Bill Analysis .....	GWB-2

**EXECUTIVE SUMMARY  
CHAPARRAL CITY WATER COMPANY  
DOCKET NO. W-02113A-13-0118**

Chaparral City Water Company ("CCWC" or "Company"), is a certificated Arizona public service corporation that provides water service in the Town of Fountain Hills in Maricopa County. The average number of customers during the test year was approximately 13,600 customers in its 19 square mile service territory.

The typical 3/4-inch meter residential customer with a median usage of 4,892 gallons would experience a \$10.13 or a 34.89 percent increase in the monthly bill from \$29.03 to \$39.16 under the Company's proposed rates and a \$2.78 or a 9.56 percent increase in the monthly bill from \$29.03 to \$31.81 under Staff's recommended rates.

Staff recommends approval of its recommended rates and charges as shown on the attached schedules.

1 **INTRODUCTION**

2 **Q. Please state your name, occupation, and business address.**

3 A. My name is Gerald Becker. I am an Executive Consultant III employed by the Arizona  
4 Corporation Commission ("Commission") in the Utilities Division ("Staff"). My business  
5 address is 1200 West Washington Street, Phoenix, Arizona 85007.  
6

7 **Q. Are you the same Gerald Becker who previously submitted direct and surrebuttal**  
8 **and amended (revenue requirements) surrebuttal testimony in this case?**

9 A. Yes, I am.  
10

11 **PURPOSE OF AMENDED SURREBUTTAL TESTIMONY**

12 **Q. What is the purpose of your amended surrebuttal testimony in this filing?**

13 A. The purpose of my amended surrebuttal testimony in this filing is to provide updated rates  
14 to reflect the revenue requirements as reflected in Staff's Amended Surrebuttal. Although  
15 Staff did not file surrebuttal testimony regarding its rate design, Staff is defining this filing  
16 as amended surrebuttal, as the rate design herein supports Staff recommended revenue  
17 requirements, as reflected in Staff's amended surrebuttal. Staff is also providing some  
18 additional information regarding miscellaneous service charges.  
19

20 **RATE DESIGN**

21 **Q. Did Staff prepare schedules showing the present, Company-proposed, and Staff-**  
22 **recommended rates and charges?**

23 A. Yes. Staff Amended Surrebuttal Schedule GWB-1 shows the present monthly minimum  
24 charges and commodity rates, the Company's proposed monthly minimum charges and  
25 commodity rates and Staff's recommended monthly minimum charges and commodity  
26 rates. The schedules also show the present, proposed and recommended service charges.

1 A summary of the present, Company-proposed and Staff-recommended rates is presented  
2 in the following section.

3  
4 **Q. Would you please summarize the present rate design for CCWC?**

5 A. The present monthly minimum charges by meter size are as follows: 3/4-inch \$16.50; 1-  
6 inch \$27.50, 1 1/2-inch \$55.00, 2-inch \$88.00, 3-inch \$176.00, 4-inch \$275.00, 6-inch  
7 \$550.00, 8-inch \$880.00, 10-inch \$1,265.00, and 12-inch \$2,365.00. No gallons are  
8 included in the monthly minimum charge. The residential water commodity rate for the  
9 3/4-inch customer is \$2.31 per thousand gallons for zero to 3,000 gallons, \$2.96 per  
10 thousand gallons for 3,001 to 9,000 gallons, and \$3.61 per thousand gallons for any  
11 consumption over 9,000 gallons. The larger residential, commercial, irrigation, and  
12 hydrant commodity break-over points vary by meter size, but are \$2.96 per thousand  
13 gallons for the first tier and \$3.61 per thousand gallons for any consumption over the first  
14 tier. The present rate design also has monthly minimum and commodity charges for  
15 irrigation and hydrant customers, and a commodity only charge for standpipe water  
16 service. The monthly charge for fire sprinkler service is \$10.00 for all meter sizes plus  
17 \$2.96 per thousand gallons.

18  
19 **Q. Would you please summarize the Company's proposed rate design?**

20 A. The Company's proposed monthly minimum charges by meter size are as follows: 3/4-  
21 inch \$22.30, 1-inch \$37.19, 1 1/2-inch \$74.38, 2-inch \$119.00, 3-inch \$238.00, 4-inch  
22 \$371.88, 6-inch \$743.77, 8-inch \$1,190.02, 10-inch \$1,710.66, and 12-inch \$3,198.19.  
23 Customers who qualify as low income with 3/4-inch and 1-inch meters would qualify for a  
24 discount of \$7.50 per month from the monthly minimum. Zero gallons are included in the  
25 monthly minimum charge for all customers. The Company proposes a 3-tier inverted  
26 residential commodity rate for only the 3/4-inch customers of \$3.1061 per thousand

1 gallons for zero to 3,000 gallons, \$3.9850 per thousand gallons for 3,001 to 9,000 gallons,  
2 and \$4.8640 per thousand gallons for any consumption over 9,000 gallons. The other  
3 proposed residential commodity rate tiers vary by meter size, but are \$3.9850 per thousand  
4 gallons for the first tier and \$4.8640 per thousand gallons for any consumption over the  
5 first tier. The Company is proposing an increase in its meter and commodity charges for  
6 commercial, irrigation and hydrant customers. The Company is also proposing increased  
7 monthly and commodity charges for private fire service which does not vary by meter  
8 size.

9  
10 **Q. Would you please summarize Staff's recommended rate design?**

11 **A.** Staff's recommended rates and charges are presented on Schedule GWB-1. Staff's  
12 recommended monthly minimum charges by meter size are as follows: 3/4-inch \$19.25, 1-  
13 inch \$32.11, 1 1/2-inch \$64.22, 2-inch \$102.74, 3-inch \$205.49, 4-inch \$321.08, 6-inch  
14 \$642.17, 8-inch \$1,027.46, 10-inch \$1,476.98, and 12-inch \$2,761.32. Customers who  
15 qualify as low income with 3/4-inch and 1-inch meters would qualify for a discount of  
16 \$7.50 per month from the monthly minimum. Zero gallons are included in the monthly  
17 minimum charge. For the 3/4-inch residential customers, Staff recommends a 3-tier  
18 inverted rate design with commodity charges of \$2.00 per thousand gallons for zero to  
19 3,000 gallons, \$3.465 per thousand gallons for 3,001 to 9,000 gallons, and \$4.28 per  
20 thousand gallons for any consumption over 9,000 gallons. Staff's recommended larger  
21 residential, commercial, irrigation, and hydrant commodity rates have two tiers and vary  
22 by meter size, set at \$3.465 per thousand gallons for the first tier and \$4.28 per thousand  
23 gallons for any consumption over the first tier. Staff recommends increases in meter and  
24 commodity charge for commercial, irrigation and hydrant customers. Staff recommends  
25 increasing the monthly charge for fire sprinkler service to the greater of \$10.00 or 2

1 gallons for zero to 3,000 gallons, \$3.9850 per thousand gallons for 3,001 to 9,000 gallons,  
2 and \$4.8640 per thousand gallons for any consumption over 9,000 gallons. The other  
3 proposed residential commodity rate tiers vary by meter size, but are \$3.9850 per thousand  
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7 monthly and commodity charges for private fire service which does not vary by meter  
8 size.

9  
10 **Q. Would you please summarize Staff's recommended rate design?**

11 **A.** Staff's recommended rates and charges are presented on Schedule GWB-1. Staff's  
12 recommended monthly minimum charges by meter size are as follows: 3/4-inch \$19.25, 1-  
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15 qualify as low income with 3/4-inch and 1-inch meters would qualify for a discount of  
16 \$7.50 per month from the monthly minimum. Zero gallons are included in the monthly  
17 minimum charge. For the 3/4-inch residential customers, Staff recommends a 3-tier  
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21 residential, commercial, irrigation, and hydrant commodity rates have two tiers and vary  
22 by meter size, set at \$3.465 per thousand gallons for the first tier and \$4.28 per thousand  
23 gallons for any consumption over the first tier. Staff recommends increases in meter and  
24 commodity charge for commercial, irrigation and hydrant customers. Staff recommends  
25 increasing the monthly charge for fire sprinkler service to the greater of \$10.00 or 2  
26 percent of the monthly minimum charge for that meter size with no commodity charge.

1 **Q. What is the rate impact on a typical 3/4-inch meter residential customer?**

2 A. The typical 3/4-inch meter residential customer with a median usage of 4,892 gallons  
3 would experience a \$10.13 or a 34.89 percent increase in the monthly bill from \$29.03 to  
4 \$39.16 under the Company's proposed rates and a \$2.78 or a 9.56 percent increase in the  
5 monthly bill from \$29.03 to \$31.81 under Staff's recommended rates. A typical bill  
6 analysis is provided on Schedule GWB-2.

7  
8 **MISCELLANEOUS SERVICE CHARGES**

9 **Q. Did the Company disagree with Staff's recommended service charges?**

10 A. Yes.

11  
12 **Q. Does Staff have any additional comments regarding its recommended service**  
13 **charges?**

14 A. Yes.

15  
16 Establishment Charge – The Company proposes to increase the establishment service  
17 charge from \$25 to \$60. Staff recommended \$30 charge which is within the range of  
18 other EPCOR Divisions with more current rates. Further, the Company did not provide  
19 sufficient reason to justify the increase, only provided testimony advising proposed  
20 amounts were for actual costs incurred.

21  
22 Reconnection (Delinquent) Charge – The Company proposes to increase the reconnection  
23 (delinquent) service charge from \$35 to \$60. Staff recommended a \$35 charge which is  
24 within the range of other EPCOR Divisions with more current rates. Further, the  
25 Company did not provide sufficient reason to justify the increase, only providing  
26 testimony that the proposed amounts were for actual costs incurred.

1 Meter Test Charge – The Company proposed to decrease the meter test service charge  
2 from \$35 to \$30. Staff recommends the meter test charge to remain at \$35.

3  
4 Establishment (After Hours), Reconnection (Delinquent) After Hours and After Hours  
5 Service Charge – The Company has proposed to increase its current Establishment (After  
6 Hours) and its Reconnection (Delinquent), as shown on Schedule GWB-1. Staff agrees  
7 that an additional fee for service provided after normal business hours is appropriate when  
8 such service is at the customer's request or for the customer's convenience. Such a tariff  
9 compensates the utility for additional expenses incurred from providing after-hours  
10 service. Moreover, Staff concludes that it is appropriate to apply an after-hours service  
11 charge in addition to the charge for any utility service provided after hours at the  
12 customer's request or for the customer's convenience. Therefore, Staff recommends  
13 elimination of the Company's current Establishment (After Hours), and Reconnection  
14 (Delinquent) After Hours charges. Instead of these charges, Staff continues to recommend  
15 the creation of a separate \$35 After-Hours Service Charge. For example, under Staff's  
16 proposal, a customer would be subject to a \$30 Establishment fee if it is done during  
17 normal business hours, but would pay an additional \$35 after-hours fee if the customer  
18 requested that the establishment be done after normal business hours.

19  
20 **Q. What does Staff recommend?**

21 **A.** Staff recommends the approval of its Services Charges as shown on Schedule GWB-1.

22  
23 **Q. Does this conclude your amended surrebuttal testimony?**

24 **A.** Yes, it does.



Monthly Usage Charge	Present	Company Proposed Rates	Staff Recommended Rates
<b>Meter Size (All Classes):</b>			
3/4 inch	16.50	22.30	19.25
3/4 inch Low Income	-	14.80	11.75
1 inch	27.50	37.19	32.11
1 inch (Low Income)	-	29.69	24.81
1 1/2 inch	55.00	74.38	64.22
2 inch	88.00	119.00	102.74
3 inch	176.00	238.00	205.49
4 inch	275.00	371.88	321.08
6 inch	550.00	743.77	642.17
8 inch	880.00	1,190.02	1,027.46
10 inch	1,265.00	1,710.66	1,476.98
12 inch	2,365.00	3,198.19	2,761.32
<b>Commodity Charge - Per 1,000 Gallons All Classes</b>			
<u>3/4" Meter (Residential, Commercial and Industrial)</u>			
First 3,000 gallons	\$ 2.3100	\$ 3.1061	\$ 2.000
3,001 to 9,000 gallons	2.9600	3.9850	3.465
Over 9,000 gallons	3.6100	4.8640	4.280
<u>1" Meter (Residential, Commercial and Industrial)</u>			
First 24,000 gallons	2.9600	3.9850	3.465
Over 24,000 gallons	3.6100	4.8640	4.280
<u>1 1/2" Meter (Residential, Commercial and Industrial)</u>			
First 60,000 gallons	2.9600	3.9850	3.465
Over 60,000 gallons	3.6100	4.8640	4.280
<u>2" Meter (Residential, Commercial and Industrial)</u>			
First 100,000 gallons	2.9600	3.9850	3.465
Over 100,000 gallons	3.6100	4.8640	4.280
<u>3" Meter (Residential, Commercial and Industrial)</u>			
First 225,000 gallons	2.9600	3.9850	3.465
Over 225,000 gallons	3.6100	4.8640	4.280
<u>4" Meter (Residential, Commercial and Industrial)</u>			
First 350,000 gallons	2.9600	3.9850	3.465
Over 350,000 gallons	3.6100	4.8640	4.280
<u>6" Meter (Residential, Commercial and Industrial)</u>			
First 725,000 gallons	2.9600	3.9850	3.465
Over 725,000 gallons	3.6100	4.8640	4.280
<u>8" Meter (Residential, Commercial and Industrial)</u>			
First 1,125,000 gallons	2.9600	3.9850	3.465
Over 1,125,000 gallons	3.6100	4.8640	4.280
<u>10" Meter (Residential, Commercial and Industrial)</u>			
First 1,500,000 gallons	2.9600	3.9850	3.465
Over 1,500,000 gallons	3.6100	4.8640	4.280
<u>12" Meter (Residential, Commercial and Industrial)</u>			
First 2,250,000 gallons	2.9600	3.9850	3.465
Over 2,250,000 gallons	3.6100	4.8640	4.280

	Present	Company Proposed Rates	Staff Recommended Rates
<b>Fire Lines:</b>			
Up to 8"	\$ 10.00	\$ 13.62	*
10"	10.00	13.62	*
12"	10.00	13.62	*
*2% of monthly minimum for a comparable size meter connection, but no less than \$10.00 per month. The service charge for fire sprinklers is only applicable for service lines separate and distinct for the primary water service line.			
<b>Other Service Charges:</b>			
Establishment	\$ 25.00	\$ 60.00	\$ 30.00
Establishment (After Hours)	\$ 35.00	\$ 90.00	NT
Reconnection (Delinquent)	\$ 35.00	\$ 60.00	\$ 35.00
Reconnection (Delinquent) - After Hours	\$ 50.00	\$ 90.00	N/T
Meter Test (if Correct)	\$ 35.00	\$ 30.00	\$ 35.00
Deposit	*	*	*
Deposit Interest	**	**	**
Reestablishment (within 12 months)	***	***	***
NSF Check	\$ 25.00	\$ 25.00	\$ 25.00
Late Payment Penalty	1.5% per month	1.5% per month	1.5% per month
Deferred Payment	1.5% per month	1.5% per month	1.5% per month
Moving Meter at Customer Request	At Cost	At Cost	At Cost
Meter Re-read (if correct)	\$ 25.00	\$ 10.00	\$ 10.00
Service Calls -After Hours	see above	see above	N/T
After Hours Service Charge (a)	-	-	\$ 35.00
* Per Commission Rule A.A.C. R14-2-403(B)			
** Per Commission Rule A.A.C. R14-2-403(B)			
*** Per Commission Rule A.A.C. R14-2-403(D) - Months off the system times the monthly minimum.			
In addition to the collection of regular rates, the utility will collect from its customers a proportionate share of any privilege, sales, use, and franchise tax. Per commission rule 14-2-409D(5).			
(a) In addition to the charge for any utility service provided after hours			

**Service and Meter Installation Charges**

Service Size	Present Service Line	Present Meter	Total Present Charge	Proposed Service Line	Proposed	Total Proposed	Recommen	Recommen	Total Recommend
5/8"	\$ 385.00	\$ 135.00	\$ 520.00	\$ 385.00	\$135.00	\$ 520.00	\$ 385.00	\$ 135.00	\$ 520.00
3/4"	\$ 385.00	\$ 215.00	\$ 600.00	\$ 385.00	\$195.00	\$ 580.00	\$ 385.00	\$ 195.00	\$ 580.00
1"	\$ 435.00	\$ 255.00	\$ 690.00	\$ 435.00	\$234.00	\$ 669.00	\$ 435.00	\$ 234.00	\$ 669.00
1-1/2"	\$ 470.00	\$ 465.00	\$ 935.00	\$ 470.00	\$367.00	\$ 837.00	\$ 470.00	\$ 367.00	\$ 837.00
2" Turbine	\$ 630.00	\$ 965.00	\$ 1,595.00	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost
2" Comp	\$ 630.00	\$ 1,690.00	\$ 2,320.00	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost
3" Turbine	\$ 805.00	\$ 1,470.00	\$ 2,275.00	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost
3" Comp	\$ 845.00	\$ 2,265.00	\$ 3,110.00	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost
4" Turbine	\$ 1,170.00	\$ 2,350.00	\$ 3,520.00	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost
4" Comp	\$ 1,230.00	\$ 3,245.00	\$ 4,475.00	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost
6" Turbine	\$ 1,730.00	\$ 4,545.00	\$ 6,275.00	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost
6" Comp	\$ 1,770.00	\$ 6,280.00	\$ 8,050.00	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost
8" or larger	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost

Fire Sprinkler	Present	Proposed	Recommended
2" Meter and Valve	At Cost		At Cost
4" Meter and Valve	At Cost		At Cost
6" Meter and Valve	At Cost		At Cost
8" Meter and Valve	At Cost		At Cost

**Typical Bill Analysis**  
General Service 3/4-Inch Meter

Company Proposed	Gallons	Present Rates	Proposed Rates	Dollar Increase	Percent Increase
Average Usage	7,870	\$ 37.85	\$ 51.03	\$ 13.18	34.83%
Median Usage	4,892	29.03	39.16	\$ 10.13	34.89%
<b>Staff Recommended</b>					
Average Usage	7,870	\$ 37.85	\$ 42.12	\$ 4.28	11.31%
Median Usage	4,892	29.03	31.81	\$ 2.78	9.56%

**Present & Proposed Rates (Without Taxes)**  
General Service 3/4-Inch Meter

Gallons Consumption	Present Rates	Company Proposed Rates	% Increase	Staff Recommended Rates	% Increase
	\$ 16.50	\$ 22.30	35.15%	\$ 19.25	16.67%
1,000	18.81	25.41	35.07%	21.25	12.97%
2,000	21.12	28.51	35.00%	23.25	10.09%
3,000	23.43	31.62	34.95%	25.25	7.77%
4,000	26.39	35.60	34.91%	28.72	8.81%
5,000	29.35	39.59	34.86%	32.18	9.64%
6,000	32.31	43.57	34.86%	35.65	10.32%
7,000	35.27	47.56	34.84%	39.11	10.89%
8,000	38.23	51.54	34.82%	42.58	11.37%
9,000	41.19	55.53	34.81%	46.04	11.77%
10,000	44.80	60.39	34.80%	50.32	12.32%
11,000	48.41	65.26	34.80%	54.60	12.79%
12,000	52.02	70.12	34.79%	58.88	13.19%
13,000	55.63	74.98	34.79%	63.16	13.54%
14,000	59.24	79.85	34.79%	67.44	13.84%
15,000	62.85	84.71	34.78%	71.72	14.11%
16,000	66.46	89.58	34.78%	76.00	14.35%
17,000	70.07	94.44	34.78%	80.28	14.57%
18,000	73.68	99.30	34.78%	84.56	14.77%
19,000	77.29	104.17	34.78%	88.84	14.94%
20,000	80.90	109.03	34.77%	93.12	15.11%
25,000	98.95	133.35	34.77%	114.52	15.74%
30,000	117.00	157.67	34.76%	135.92	16.17%
35,000	135.05	181.99	34.76%	157.32	16.49%
40,000	153.10	206.31	34.76%	178.72	16.73%
45,000	171.15	230.63	34.75%	200.12	16.93%
50,000	189.20	254.95	34.75%	221.52	17.08%
75,000	279.45	376.55	34.75%	328.52	17.56%
100,000	369.70	498.15	34.75%	435.52	17.80%

W-02126A-11-0480

EXHIBIT

S-13

ADMITTED

Avra Water Co-Op, Inc.  
Test Year Ended August 31, 2011  
Adjustments to Revenues and Expenses  
Adjustment Number 1

Exhibit  
Schedule C-2  
Page 2  
Witness: Bourassa

Line  
No.

1 Depreciation Expense

2

3	Acct.	Adjusted Original Cost	Fully Depr Plant	Adjusted Original Cost	Proposed Rates	Depreciation Expense
4	No. Description					
5	301 Organization Cost	8,885		8,885	0.00%	-
6	302 Franchise Cost	-		-	0.00%	-
7	303 Land and Land Rights	198,608		198,608	0.00%	-
8	304 Structures and Improvements	402,511	-	402,511	3.33%	13,404
9	305 Collecting and Impounding Res.	242,095	-	242,095	2.50%	6,052
10	308 Lake River and Other Intakes	-	-	-	2.50%	-
11	307 Wells and Springs	3,340,637	-	3,340,637	3.33%	111,243
12	308 Infiltration Galleries and Tunnels	-	-	-	6.67%	-
13	309 Supply Mains	-	-	-	2.00%	-
14	310 Power Generation Equipment	-	-	-	5.00%	-
15	311 Electric Pumping Equipment	988,217	(321,390)	646,827	12.50%	80,853
16	320 Water Treatment Equipment	-	-	-	3.33%	-
17	320.1 Water Treatment Plant	-	-	-	3.33%	-
18	320.2 Chemical Solution Feeders	97,660	(9,335)	88,325	20.00%	17,686
19	330 Dist. Reservoirs & Standpipe	-	-	-	2.22%	-
20	330.1 Storage tanks	1,922,659	-	1,922,659	2.22%	42,683
21	330.2 Pressure Tanks	-	-	-	5.00%	-
22	331 Trans. and Dist. Mains	6,992,548	-	6,992,548	2.00%	139,851
23	333 Services	512,676	-	512,676	3.33%	17,072
24	334 Meters	508,219	(175,404)	333,816	8.33%	27,807
25	335 Hydrants	29,829	-	29,829	2.00%	697
26	336 Backflow Prevention Devices	-	-	-	6.67%	-
27	339 Other Plant and Misc. Equip.	109,280	-	109,280	6.67%	7,289
28	340 Office Furniture and Fixtures	223,224	(110,014)	113,210	6.67%	7,551
29	340.1 Computers and Software	-	-	-	20.00%	-
30	341 Transportation Equipment	193,777	(111,830)	81,948	20.00%	16,389
31	342 Stores Equipment	-	-	-	4.00%	-
32	343 Tools and Work Equipment	122,220	(66,184)	56,036	5.00%	2,802
33	344 Laboratory Equipment	-	-	-	10.00%	-
34	345 Power Operated Equipment	-	-	-	5.00%	-
35	346 Communications Equipment	45,168	-	45,168	10.00%	4,517
36	347 Miscellaneous Equipment	-	-	-	10.00%	-
37	348 Other Tangible Plant	-	-	-	10.00%	-
38						
39	TOTALS	\$ 15,819,009	\$ (794,157)	\$ 15,124,853		\$ 495,775

42 Less: Amortization of Contributions \$ 5,198,283 \$ 5,198,283 3.3234% \$ (172,694)

46 Total Depreciation Expense \$ 323,081

48 Adjusted Test Year Depreciation Expense 328,322

50 Increase (decrease) in Depreciation Expense (5,241)

52 Adjustment to Revenues and/or Expenses \$ (5,241)

54 SUPPORTING SCHEDULE

56 B-2, page 3

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